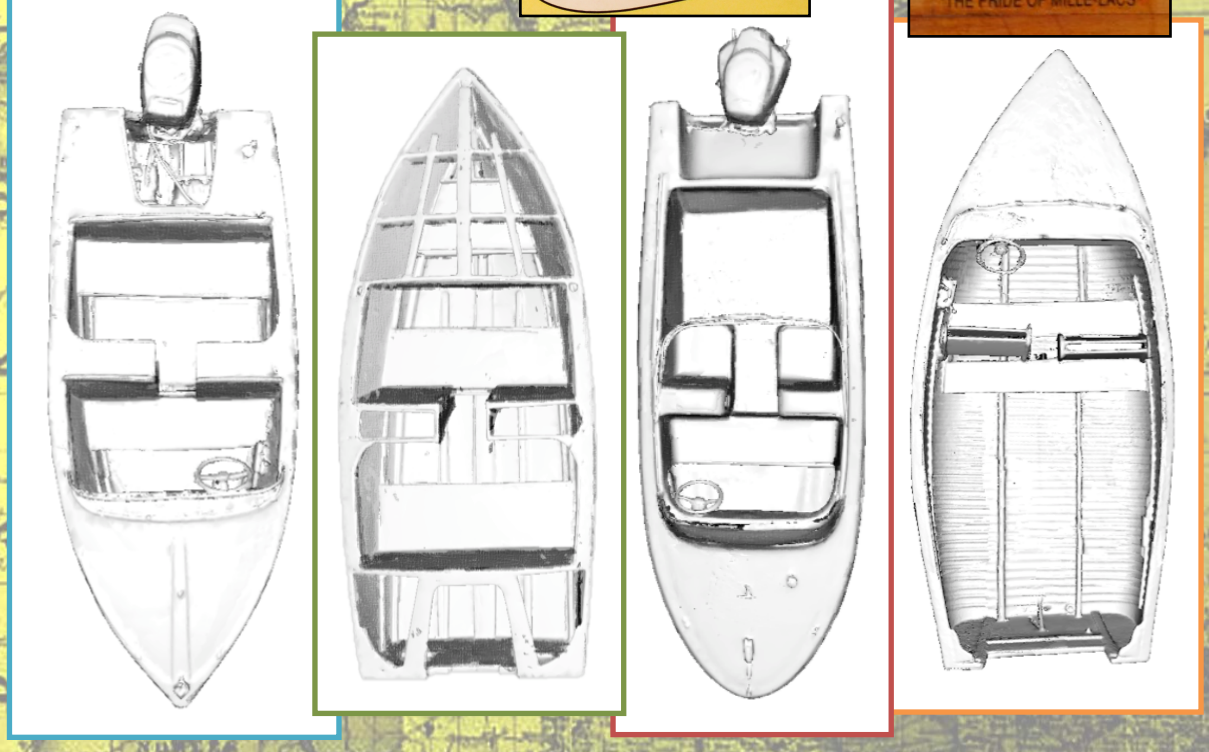
MARITIME
HERITAGE
MINNESOTA

CLEAN WATER LAND & LEGACY AMENDMENT

Ann Merriman
Christopher Olson

Minnesota Historic Runabouts Analysis and 3D Scanning Project Report



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Acknowledgments

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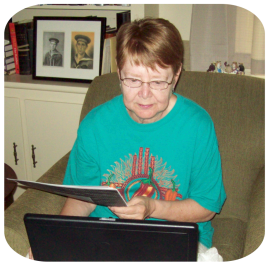

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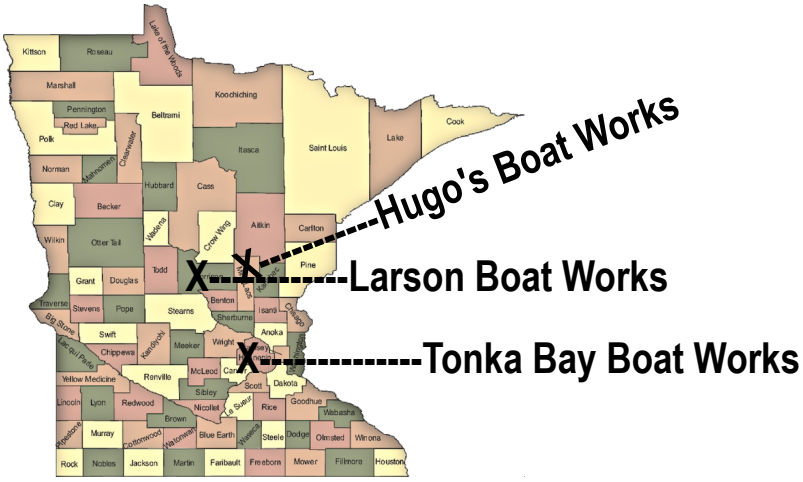
Introduction

Maritime Heritage Minnesota conducted the Minnesota Historic Runabouts Analysis and 3D Scanning Project (MHR) between April and July 2020. The purpose of the MHR Project was to document, 3D scan, and conduct historical research of 4 Minnesota-produced watercraft. MHM chose watercraft designed and constructed by Ed Ahlcrona and Tonka Bay Boat Works in Hennepin County, Paul Larson and Larson Boat Works in Morrison County, and Hugo and Janet Gross of Hugo's Boat Works in Mille Lacs County.



Research Design and Methodology

Watercraft are held in several Minnesota museums, historical societies, and collections - boats that were constructed in the state. Often the general public, scholars, and students are unaware of the significance of small and seemingly mundane historic vessels preserved in these collections. Drawing upon nautical archaeological and maritime historical knowledge based on fieldwork and research, MHM chose 4 small wooden watercraft specifically constructed to act as recreational vessels to investigate during the MHR Project. These vessels met particular criteria: they were Minnesota-designed and built, they had a particular design, they are rare, and their significance to the maritime history of the state has not been recognized - or in one case- not widely recognized. MHM's documented 3D scanned, measured, sketched, and photographed 4 vessels: Ed Ahlcrona's 2 Crona Craft Runabouts from Tonka Bay Boat Works in Tonka Bay on Lake Minnetonka, Paul Larson's All-American Runabout from Larson Boat Works in Little Falls on the Mississippi River, and Hugo and Janet Gross's Sportsman G16 Runabout from Hugo's Boat Works in Onamia on Mille Lacs Lake.

A goal of MHM's previous 3D scanning projects conducted between 2016-2018 was to determine the usefulness of the inexpensive scanning technology chosen for the work, along with the quality of its output. Initially, MHM acquired an iSense scanner and 4th

Generation iPad that work together to produced 3D files. The iSense - attached to a bracket - fits to the iPad and utilizes the device's camera and the iSense app to project an infrared beam onto the watercraft. The beam bounces back to the camera, 'recording' a section of the watercraft. Prior to scanning, the operator accesses a box on the iPad screen that will be re-sized depending on the three-dimensional area that is focused upon; nothing outside of the box is scanned. The scanning process involves the slow movement of the iPad and iSense around the section of the watercraft that is 'inside' the box on the screen. Once the operator is satisfied with the scan, a touchscreen stop button renders a scan that can be inspected prior to saving the file on the iPad's hard drive. This process is repeated until the watercraft is completely scanned and all the files are saved. The files are accessed through iTunes once the iPad is synced with MHM's laptop and downloaded to the hard drive; each scan produces between 3-8 files, depending on the area of the watercraft that was focused upon. The files - both in greyscale and color - are then compiled by the MeshLab program in the editing process that produces an editable image. Due to the size of the watercraft MHM studies, dozens of scans are produced for each vessel; full-hull scans can and have been produced, but their detail is limited and often the boat's sheer line can be skewed. MHM then compiles a complete 3D digital model from the many files produced using MeshLab; the model can be presented in greyscale, several solid colors, in x-ray, and in authentic color as if the model was a photograph. While simple images of the watercraft are presented in MHM's final reports, the rendered 3D model OBJ file can be printed in 3D.

However, for the MHR Project, MHM added another scanning system to augment the iSense in order to speed up the fieldwork process and benefit from twice the number of files. Initially, a second iSense was going to be the scanner of choice, but that equipment is no longer being produced, and even used devices were not an option due to the app being discontinued and it us un-transferable from one iPad to another. Therefore, MHM purchased a Structure Sensor Mark IV, a device that works exactly like the iSense but with its own series of apps and a different file management system. The Structure Sensor prompts the user to input an email address that will accept the files produced by the scanner with or without an internet connection. The number of files produced is dependent on whether the user choose to render a color copy of the files in addition to a monochromatic version. Once the scanning procedure is completed and the iPad can be synched with the office computer, the back-up of emails is downloaded into the chosen email account. The files are then ready for editing and 3D model rendering. MHM has also determined - through testing the iSense and Structure Sensor with the 3 iPads - that the suite of Structure Sensor apps work with the iSense - including the calibration program that improves the scanning process - but the reverse is not true. Lastly, it has also been determined that the iSense produces more detailed and 'better' scans using the Structure Sensor app, making the files from both devices compatible with each other.

The 3D scanning process is a tool MHM has utilized since late 2016 to document 14 other smaller watercraft: the Big Swan Dugout Canoe, a Ramaley’s Fisherman’s Friend, Mille Lacs Indian Trading Post motorboat, a Joseph Dingle Boat Works outboard motorboat, a Cokato Boat Works outboard fishing boat, a chrome fiberglass Herter’s Model St. Lawrence outboard motorboat, Tukantoiciya’s Dakota Birch Bark Canoe, an

Ojibwe Birch Bark Canoe, a Parker's Prairie Boat Works Duck Boat, Arthur Dyer's fast racing sailboat *Onawa*, Charles Ichabod Clark's narrow flat-bottomed planked boat named *The Constitution Old Ironsides*, a Fisherman's Friend model probably constructed by Moore Boat Works or Ramaley Boat Works, a small outboard motorboat probably designed and produced by E. Weston Farmer at the Wayzata Boat Building Company, and Ray Thompson's row/outboard fishing boat Thompson #22 from Waseca. Beyond the actual scanning and documentation of the 4 watercraft during the MHR Project, another of MHM's goal was to determine the usefulness of the inexpensive scanning technology chosen for the work, along with the quality of its output.

Minnesota Historic Runabouts Analysis and 3D Scanning Project Results

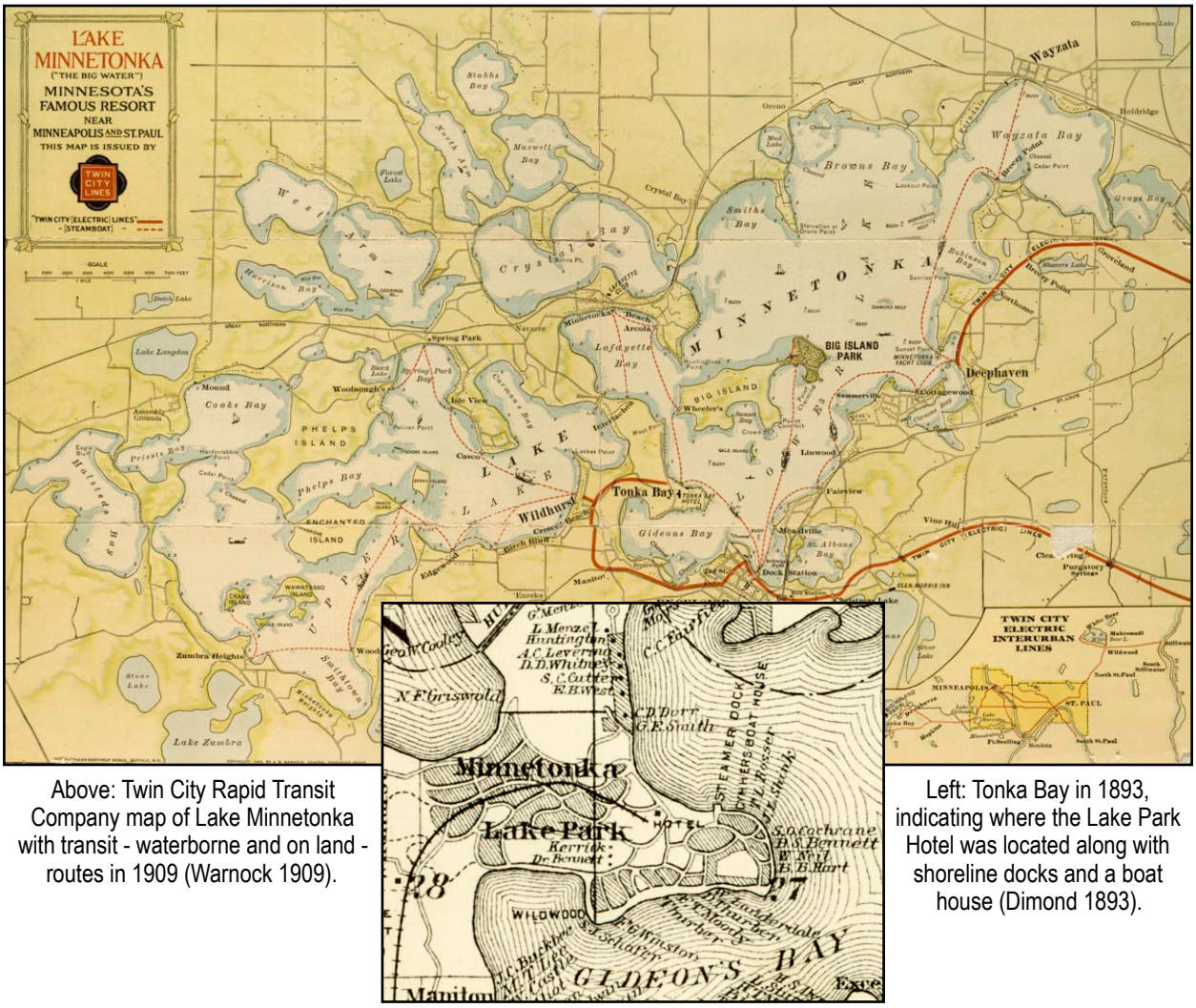
Crona Craft Deluxe Outboard Runabout 1 (TBBW-CC-1) and Crona Craft Deluxe Outboard Runabout 2 (TBBW-CC-2)
Garrison, MN, and White Bear Lake, MN

History

MHM learned of the existence of Crona Craft Deluxe Outboard Runabouts during a previous Minnesota Small Craft Project. Cheryl Ahlcrona informed MHM that her father, Edgar Ahlcrona, designed and manufactured Crona Craft in the mid-1950s. Ahlcrona owned and operated Tonka Bay Boat Works on Lake Minnetonka for over 2 decades. The Tonka Bay Boat Works Crona Craft Deluxe Outboard Runabout 1 (TBBW-CC 1) is owned by Cheryl Ahlcrona (Ed's daughter), and Dennis Trooein (Ed's son-in-law) owns TBBW-CC-2 . The peninsula where the current the Tonka Bay Marina is located has been utilized for historic maritime activities for over 140 years. The Minnetonka Park Hotel was constructed there in 1879 and re-named the Lake Park Hotel. The hotel was set in 250 acres of land and at that time, it controlled close to 5 miles of shoreline around the peninsula. Like all large - and many small - hotels and guest houses on Lake Minnetonka in the late 19th and early 20th Centuries, the Lake Park had a fleet of row and fishing boats for use by guests, and a dock for lake steamers to drop off and pick up passengers. The grounds also featured tennis courts, a baseball diamond, a pavilion that featured billiards, a theater, ballroom, and roller skating rink. In 1904, the Lake Park Hotel was renamed the Tonka Bay Hotel, and four years later was purchased by the Twin City Rapid Transit Company to work in conjunction with their newly-established Big Island Amusement Park. The failure of the Park and the hotel by 1911 led to the razing of the hotel. The hotel's Casino that was used for dancing and skating was dismantled and moved by barges to Excelsior; the building was reconstructed and used for decades (Meyer 1997, 83-87; Ogland 2001, 108).

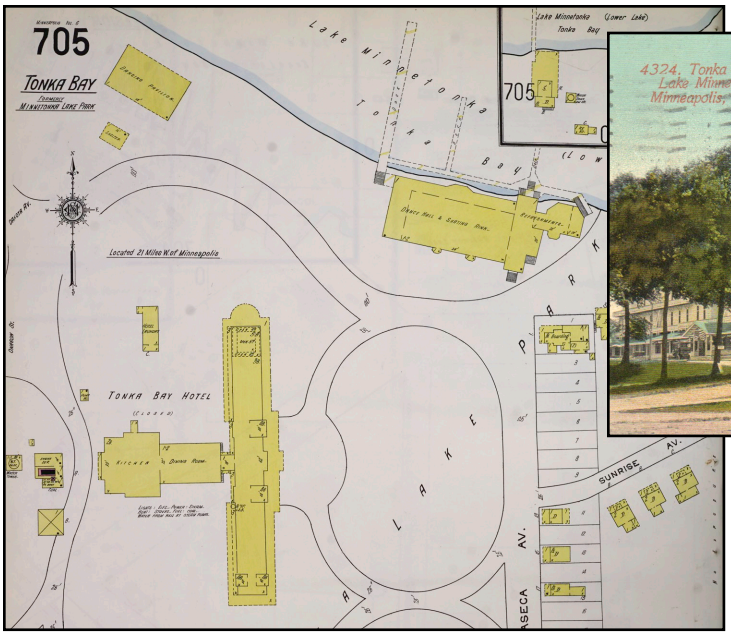
The earliest mention of a 'Tonka Bay boat works' that MHM could locate is from May 16, 1904, where the steamer *Hebe* had been undergoing a complete overhaul prior to her launching for the season. Four years later, the 'Minnetonka Boat Works' of Tonka Bay, owned by W.O. Williams, was selling launches and portable tops, along with cushions and sundries. The next year, a classified ad by W.O. Williams looking to purchase second-hand launches at his 'Tonka Bay Boats Works' suggests his company had a fluid name in those years. In 1912, the Tonka Bay Boat Works on the Gideon Bay side of the peninsula was surveyed by the Sanborn Map Company. It comprised a large boat

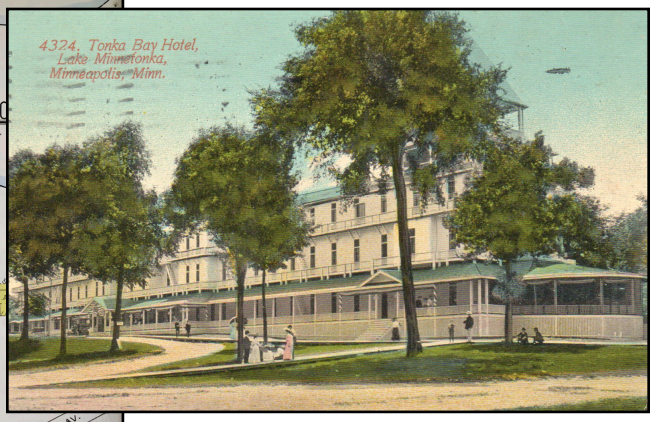
storage building and a smaller boat shop with a small steam shack attached. Williams also had a link to the Tonka Bay Hotel destruction after a wrecking company took down the structure and distributed the raw materials from the building to west Hennepin County farmers. It was reported that "W.O. Williams, the Tonka Bay boat man, is removing the old dancing pavilion, also a substantial building" that was on the hotel grounds at the shoreline. In early April 1915, Tonka Bay Boat Works was listed for sale "at a bargain, a live paying business at Lake Minnetonka. Must be sold at once to settle estate". MHM contends the estate belonged to William O. Williams; he passed away on April 8, 1914. It seems a 'Mr. Gilbert' purchased the business because the next month, it was reported that "Mr. Gilbert of the Tonka Bay Boat Works, who, with Mr. Fink, went out in a launch and picked the two men from the slower craft, taking them to Fisher's Beach....[after] Men in a Rowboat Save Two Yachtsmen Capsized in Minnetonka" near Gale Island. Ferdinand Fink was the owner and manager of a summer resort at Tonka Bay that included a pavilion and bath house on the peninsula. His facility could handle large groups of 450 people for picnics and outings. By 1922, automobile agent Mr. Sturr was associated with the Boat Works, according to newspaper ads, where he was selling a launch and a 'fast boat' (*Irish Standard* 1913; *Minneapolis Journal* 1904; *Minneapolis Morning Tribune* 1915, 1922, 1923b; *Minneapolis Sunday Tribune* 1908, 1915, 1927; *Minneapolis Tribune* 1909; Minnesota Department of Health 1914; Sanborn Map Company 1912, 1951, 705; United States Federal Census 1930a-b).



Above: Twin City Rapid Transit Company map of Lake Minnetonka with transit - waterborne and on land - routes in 1909 (Warnock 1909).

Left: Tonka Bay in 1893, indicating where the Lake Park Hotel was located along with shoreline docks and a boat house (Dimond 1893).

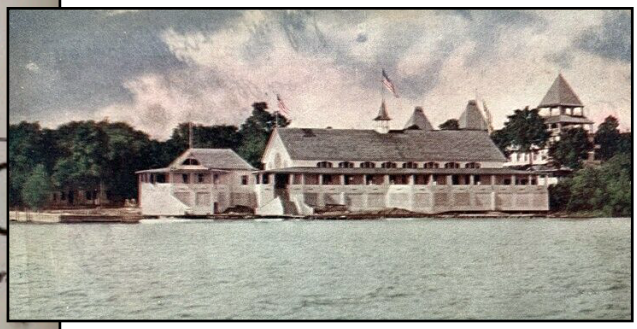




Left: The closed Tonka Bay Hotel and its grounds with the Pump House, Laundry, other buildings, and the lakeshore Casino (Sanborn Map Company 1912 and 1951, 705).

Above: The Tonka Bay Hotel (MHM Collection)

Below: The Casino at Tonka Bay that is noted on the Sanborn Map (MHM Collection)



Above Left: The first location of Tonka Bay Boat Works on the Gideon Bay side of the peninsula (Sanborn Map Company 1912, 705).

Above Right: An advertisement for Ferdinand Fink's Pavilion on Tonka Bay (Minnesota Conservationist 1935, 24).

In 1923, a link between an owner of the Tonka Bay Boat Works was found between him and the company; a fishing launch equipped with a Westman engine was offered for sale at the TBBW. Vice President of the Enterprise Machine Company in Minneapolis, Emil R. Westman, was a machinist and patent holder for an explosive engine feed cup and an electric stove. Westman operated the Tonka Bay Boat & Machine Works by 1930. Westman's 2 sons, Morris and David, were machinists as well; David, at least,

was employed at the Boat Works. Further, a neighbor of the 2 Westman residences on Lake Minnetonka, Carl Anderson, was a painter at the Boat Works. Interestingly, considering Emil's focus on machinery, in 1932 the Boat Works offered a sea sled for sale with a 32 Johnson electric motor that has an aeroplane starter (Anonymous 1930, 37; Minneapolis Directory Company 1913, 596; *Minneapolis Morning Tribune* 1923a; *Minneapolis Tribune* 1932; *St. Cloud Times* 1929; United Stated Federal Census 1920a, 1930b).

MHM has 2 theories about when the current site of the Tonka Bay Marina was established on the Tonka Bay side of the peninsula. The first idea is that the company was constructed on the Gideon Bay side of the peninsula sometime around 1900 and was the version of the Boat Works that burned in 1938. On April 17, 1938, the large fire was witnessed by thousands as a building that housed several launches and boats that were in winter storage. Among the burned were "a $2,000 cabin cruiser built by Theodore Kurth of Hopkins; two speed boats owned by Russel Gray, Meadowville, and two boats owned by Dunkin Lamont, Excelsior". Nearly 6 weeks later, a casualty of the fire was being offered for sale: "CABIN cruiser. 26 feet. partially burned. cheap. Can be seen at Tonka Bay Boat Works. Lake Minnetonka". The Boat Works, when re-built in 1938, was moved to the Tonka Bay side of the peninsula. The second - and more probable - theory about the movement of the TBBW around the peninsula is that it occurred in 1913 after the removal of the Tonka Bay Hotel pavilion near the Tonka Bay Marina's current location. Whichever theory is correct, Emil Westman's ownership of the firm passed to his son in late June 1938 following his death. David Westman owned and operated Tonka Bay Boat & Machine Works into the mid-1940s, dealing in Owens Flagships, Eddy power boats, and offering all boat services. By late 1947, the Ahlcrona Brothers acquired the company, renaming it the Tonka Bay Marine Corporation doing business as the Tonka Bay Boat Works, Inc (*Minneapolis Star* 1938a-b; *Minneapolis Star-Journal* 1946; *Minneapolis Tribune* 1938; Minnesota Secretary of State 1947; *St. Cloud Times* 1938).

$25,000 Fire Hits
'Tonka Boat Plant

(*Minneapolis Star* 1938b)

BEST WISHES
OWENS BOAT SALES
TONKA BAY
BOAT & MACHINE WORKS
Minnetonka Dealer
OWENS FLAGSHIPS — EDDY POWER BOATS
COMPLETE BOATING SERVICE
DAVID WESTMAN

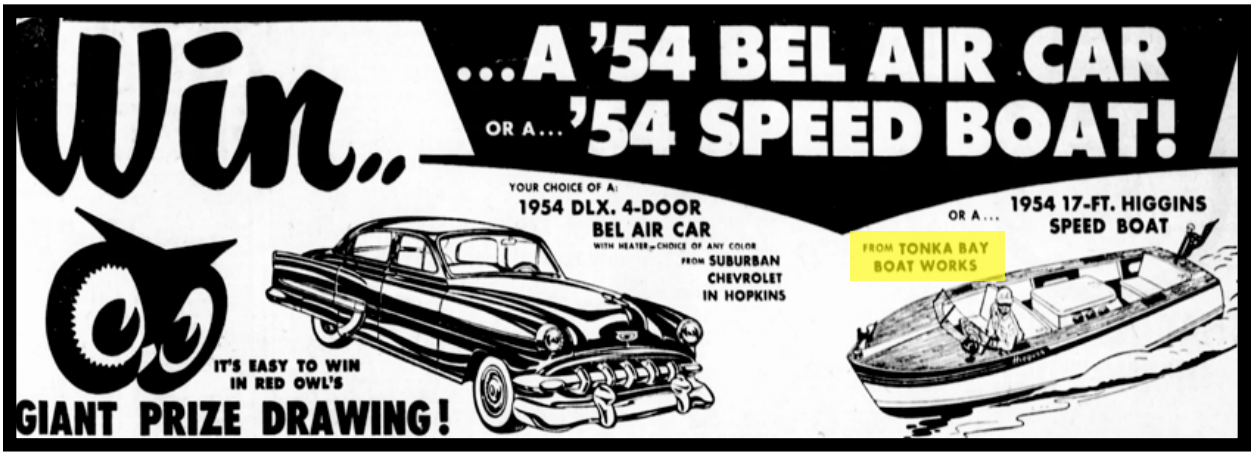
An ad for the Boat Works when owned by David Westman (*Minneapolis Star-Journal* 1946)

Edgar, Richard, Bertil, and Robert Ahlcrona grew up boating on Minnesota's lakes, even constructing an innovative pontoon boat that pre-dated the mass-produced Weere's Pontoons by 13 years. Launched on Lake Harriet, the "new and ultra modern boat, floated on pontoons and powered with a motor under an automobile type hood" was constructed for less than $35.00 exclusive of the motor. The boys - ages 13 to16 - hired a professional welder to insure their pontoons would be air-tight, but otherwise constructed the watercraft themselves. Following World War II, the University of Minnesota-bound brothers changed their life plans when the Tonka Bay Boat & Machine

The Ahlcrona boys and their pontoon boat (*Minneapolis Star* 1939)

Works came on the market. In the early Ahlcrona years, the firm rented dock space for 40 boats, utilized 2,400 square feet of boat shop space, and maintained 18,000 square feet of indoor space for winterization and storage of wooden, fiberglass, and aluminum boats. The firm focused on dealing in new and used Owens, Higgins, and Century boats, as well as selling new and used Chris Craft, Hacker-Craft, Lakeliner Houseboats, Arkansas Traveler, Steel Craft, Chrysler, and St. Paul-built Dingle watercraft. However, the company, along with a 2 bedroom home on the lot, was listed for sale in June 1950; at this time, Ed Ahlcrona probably bought out his brother's interests in the company and became the sole owner of Tonka Bay Boat Works, Inc (*Minneapolis Star* 1939, 1950, 1955; *Minneapolis Sunday Tribune* 1949a, 1949b, 1950b-c, 1952b, 1954).

Late 1940s Tonk Bay Boat Works ads (*Minneapolis Sunday Tribune* 1948, 1949b, 1952b)



In the mid-1950s, the Tonka Bay Boat Works was successful enough to participate in local give-aways (*Minneapolis* Star 1954).

The first mention of Crona Craft, the boat designed and constructed by Tonka Bay Boat Works, that MHM has located is an advertisement from April 3, 1955 (see above). The company expanded its reach in August 1955 when Vern C. Rippen in St. Paul became affiliated with Tonka Bay Boat Works in his capacity as a Higgins boat dealer. Throughout 1955, the TBBW pushed the sale of their Crona Craft runabouts in newspapers and their own literature; the firm also exhibited 1956 models at the

Northwest Sports Show held at the Minneapolis Auditorium in early April 1956. In early 1957, the TBBW expanded their reach with a new marine showroom on Highway 7; a Crona Craft was exhibited in the window display. Beginning in March, 1961, a new TBBW $75,000 show room and administration building was constructed across the street from the shore building and away from the lake. Throughout the 1950s and 1960s, Ed Ahlcrona operated the Tonka Bay Boat Works, dealing in Minnesota-built watercraft and major national brands, specializing in boat repair, maintenance, winterizing, and storage. In May 1972, Ed sold the Tonka Bay Marine Corporation to Fred T. Phelps. Ed remained in the watercraft business, becoming a Winner Boat Company representative. Ed was killed by a drunk driver in 1974 when he was heading to a boat show in Chicago. In regards to the construction of Crona Craft boats, they were built between 1955 and 1957. The number of Crona Craft built during that time is unknown and the number that survive is unknown (Ahlcrona 2014, 13-15; *Minneapolis Morning Tribune* 1955, 1957; *Minneapolis Star* 1961, 1974; *Minneapolis Sunday Tribune* 1955, 1956b; *Minneapolis Tribune* 1972b).

NOW AT TWO LOCATIONS
• BOAT YARD & SERVICE— Tonka Bay, Rt. #2, Excelsior.
• MARINE DISPLAY ROOM— Hwy. 7 & Vine Hill (watch for Feb. Grand Opening).
TONKA BAY BOAT WORKS
GR 4-6363 GR 4-9200

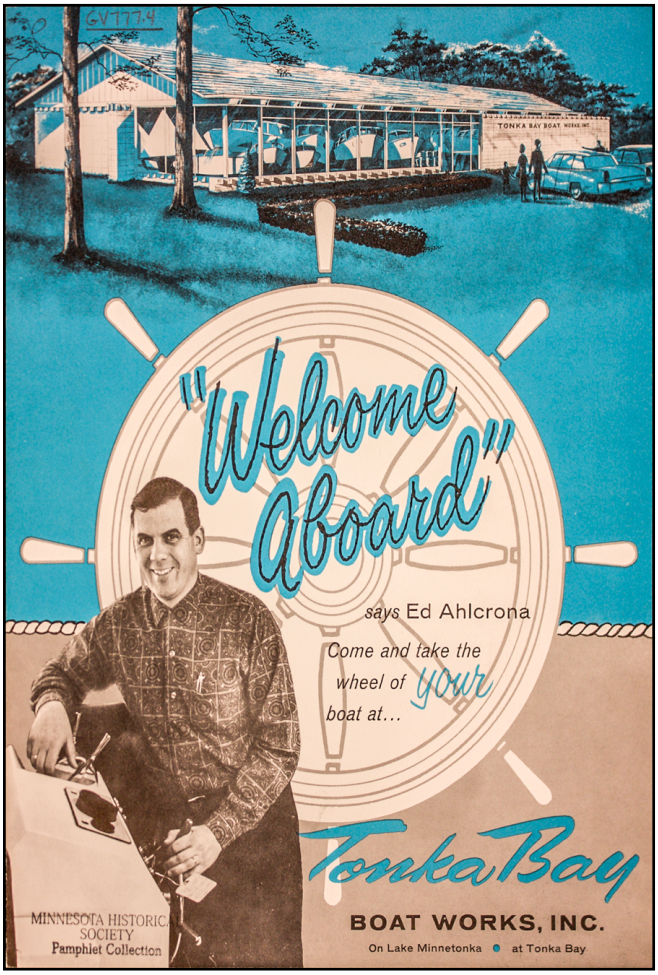
ALUMA CRAFT—A new, deeper 14-foot outboard boat, rated for motors up to 30 horsepower, is featured for 1955. A 19-foot cruiser which has an optional canvas top and a new 15-foot canoe are also newcomers to the aluminum line.
ARKANSAS TRAVELER—New this year are a 20-foot outboard cabin cruiser and a nine-foot pram, both of aluminum.
BLUE STAR—Specializes in aluminum auto top boats and runabouts, with a 15-foot outboard cabin cruiser added.
BORUM—Features a new 16-foot deluxe plywood runabout.
CADILLAC—Has added a newly-designed aluminum runabout and a luxury outboard runabout of molded plywood.
CHRIS-CRAFT — Has completely overhauled its inboard runabout and cruiser lines, adding several new series of boats, including flashy "sports-car" type runabouts. Also new outboard kit boats.
CRONA-CRAFT—Specializes in 14-foot plywood runabouts for use with big outboard motors on rough water.
DUNPHY—Several new models of wider beam boats with finer appointments. This firm, which has completed 100 years of operation, specializes in molded plywood boats.
FEATHERCRAFT — Four new hulls, headed by a 22½-foot aluminum outboard cruiser and an 18-foot convertible.
GADA—Specializes in outboard runabouts made of fiberglass and plastic.
GLASS-CRAFT — Features rowboats and outboard runabouts made of fiberglass.
HIGGINS—New inboard 29-foot deluxe cabin cruiser tops the line. Also a re-designed 14-foot outboard, a 17-foot inboard runabout and a 23-foot convertible.
HORST—Produces a waterbike which employs aluminum pontoons and a pedal-powered paddlewheel.
LAKE CRAFT—Specializes in plywood outboard fishing and runabout models.
LARSON — Specializes in cedar strip fishing boats and outboard cruisers.
LARSON WATERCRAFT—Specializes in aluminum outboard runabouts and utility boats. New this year are larger, convertible models.
LONE STAR — Nine new models this year, topped by an 18-foot general utility outboard made of aluminum and three fiberglass outboard runabouts.
LYMAN—Specializes in lapstrake outboard and inboard runabouts.
MINNETONKA — Two new models, one a lapstrake convertible of plywood and an aluminum runabout, added to line of cedar-strip boats.
NOR-CRAFT — Changes in its line of fiberglass boats include a new keel design in all models, plus a re-designed cabin in its 22½-foot outboard cruiser and new deluxe appointments on its 16-foot runabout.
SHEPARD — Specializes in molded plywood outboard cruisers.
SHELL LAKE — After 50 years of wood construction, this firm is adding nine models of fiberglass hulls this year.
STARCRAFT — Three new aluminum models, topped by a 15-foot runabout for larger outboard motors.
TAFT—Twelve models of outboard kit boats of plywood.
TROJAN—This year's line topped by a 24-foot inboard cabin cruiser and the 20-foot inboard-or-outboard cruiser.
TOMAHAWK—New this year is a 14-foot, wide beam cedar-strip boat covered with fiberglass. Also a re-designed 16-foot outboard cruiser.
TRAIL-A-CRAFT — Features lightweight fiberglass runabout with double bottom, providing built-in air chamber.
WAGEMAKER — Specializes in molded plywood runabouts.
WEERES — Specializes in pontoon boats.
WOLVERINE—Specializes in molded plywood and aluminum runabouts.
YELLOW JACKET — Enlarged line of molded plywood outboard runabouts, plus a 14-foot inboard runabout.

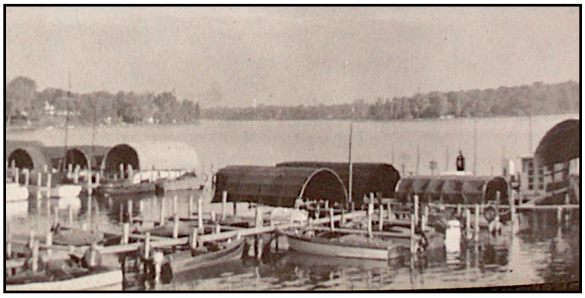
Open House (TODAY & ALL WEEK)
MARINE WEEK
FEB. 26 thru MAR. 4
Twin City Marine Dealers
AS SN.
SEE the latest and newest in exciting marine equipment during the 1956 Second Annual Marine Dealers Open House. Your Twin City Marine Dealers are ready to show and supply you with the finest equipment available. Everything for all your boating needs.
Plan now to visit these Twin City Marine Dealers during MARINE WEEK, February 26th through March 4th. Thrills for everyone. Bring the Whole Family . . .
SUNDAY 1 to 6 P.M. WEEKDAY 9 to 9
PLAN TO VISIT THESE FINE STORES
THEY ARE OPEN SUNDAYS AND EVENINGS FOR YOUR PLEASURE!
YOUR MINNEAPOLIS DEALERS
AAA SCOTTY'S RENT-IT — 4000 Excelsior Blvd, WE 9-5526
ALL SPORTS, INC. — Penn & W. Broadway, JU 2117 — St. Albans Bay, Excelsior, Minn. GR 4-5270
COCHRANES — Excelsior, Minnesota GR 4-5813
*CORRIE'S SPORTING GOODS, INC — 629 Marquette Ave. FE 5-7753
*DONALDSON'S — 6th and Nicollet FE 2-5113
GABBERTS' — 3005 Nicollet, At 3531
HOEL MARINE — 1021 Excelsior Ave. E., Hopkins, WE 9-3900
INLAND MARINE CORP. — 3131 East Lake Street PA 9-5555
ISAACSON & RASMUSSEN MAYTAG, INC. — 4010 Central Ave. N.E. ST 1-5562
JERRY'S SPORT CENTER — 3714 East Lake St. PA 2-6979
LARSEN-OLSON COMPANY — 1310 Nicollet FE 8-7765
LESLIE HOME APPLIANCE CO. — Woodbine Ave. & Highway 7 WE 9-7023
LUGER INDUSTRIES, INC. — 4402 Nicollet Ave. CO 7211
MINNETONKA BOAT WORKS, INC. — Wayzata, Minnesota GR 3-7300
NORTHLAND SPORTS & MARINE — 4326 Lyndale Avenue No. HY 4911
NORTHWEST MARINE — 1017 West Lake Street FL 2157
*STORES OPEN REGULAR HOURS ONLY
ELMER H. OLSON COMPANY — 500 So. 11th Street FE 2-4931 — St. Anthony Blvd. Hwy. 10 at Lowry N.E. ST 1-7316
OSTROM'S SPORTING GOODS — 3023 East Lake Street PA 6-5183
PECK BROTHERS SPORTING GOODS — 6001 Lyndale Avenue So. RO 9-5529
ROHRING'S SPORTING GOODS — 2708 East Franklin FE 8-2555
SPORTORAMA — 6305 Lakeland Avenue No. HY 5981
TAFT MARINE WOODCRAFT — 626 20th Avenue N.E. SU 8-6859
TONKA BAY BOAT WORKS, INC. — Tonka Bay GR 4-2200
*VOLKMANT'S — 1110 W. Bdwy. at Emerson N. CO 3600
YOUR ST. PAUL DEALERS
ACE MARINE — 200 Concord CA 6-5131
BURSIDES MARINE SHOP — 171 East 7th Street CA 2-7751
DOLAN'S LIVE BAIT STORE — 608 West 7th Street CA 3-1631
LAKE CRAFT — 2051 Hamline Ave. MI 5-3608
MIDWAY MARINE — 1157 St. Anthony Ave. CA 5-7005
MILLER MARINE — E. Water & Wabasha CA 3-3152
KERR G. RIPPIN — 75 Snelling Avenue So. MI 6-7507
RUSSELL'S MARINE AND SPORTING GOODS — 282 University Avenue CA 5-1100
LEN TIOLE TV & MARINE — 783 University CA 6-3410
MINNESOTA D & D MARINE SUPPLY CO. — Rochester, Minnesota
WINONA MOTORS — Winona, Minnesota
BRING THE WHOLE FAMILY • EVERY BOATING NEED WITH PRICES TO FIT EVERY POCKETBOOK

The TBBW launch in winter, December 19, 1956 (MNHS NP 242252).

TONKA BAY BOAT WORKS
TWO LOCATIONS
Tonka Bay on the Lake
GR 4-9200
Highway 7 & Vine Hill
(showroom) GR 4-6363
Open Mon. Thru Sat. 9:00 to 5:30
Evinrude Motors, Owens, Higgins, Bell Boy Dealers
Builders of Crona Craft

These 1955-1958 ads and Boat Show previews include the first mention of the TBBW's Crona Craft in 1955 (*Minneapolis Morning Tribune* 1957, 1958; *Minneapolis Sunday Tribune* 1955, 1956a).





Top Left: A two-toned 1957 Crona Craft displayed in the TBBW showroom (Courtesy of Cheryl Ahlcrona).

The 1959 Tonka Bay Boat Works brochure contained boat yard, dock, and showroom images (MNHS GV77.4, digitized by MHM).

Description: Tonka Bay Boat Works Crona Craft Deluxe Outboard Runabout-1 (TBBW-CC-1)

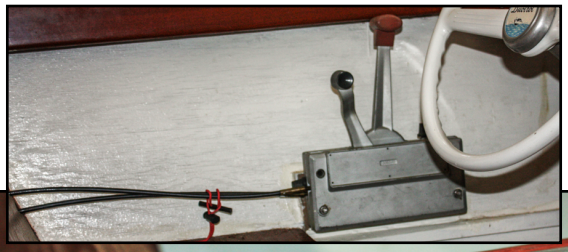
MHM documented the Tonka Bay Boat Works Crona Craft Deluxe Runabout 1 (TBBW-CC-1) during 2 days of 3D scanning in April and May 2020. The TBBW-CC-1's wooden hull is 13.40 feet long and 5.50 feet in the beam, with a 2.20-foot depth of hold. The stem consists of a trapezoidal (in cross section) stempost and inner squared post (not seen). The keel begins at the end of the stempost - 3.14 feet from the bow - and protrudes from the boat's bottom, nearly to the stern. The inner post extends aft the same distance as the stempost; a 'keelson plank' begins at the end of the inner post and it is currently hidden from view by the flooring fore and amidships. Four stringers

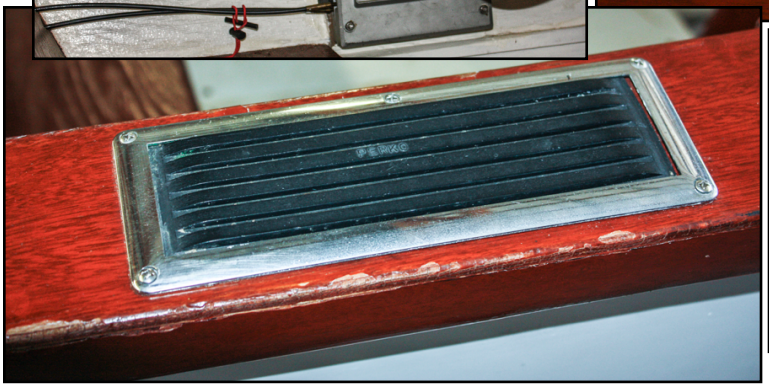
run fore and aft on either side of the keel plank, 2 on the boat's flat bottom and 2 along the inner hull at the turn of the bilge. Two additional stringers are attached to the sides of the inner hull. The outer hull has been fiberglassed, primed, and painted white; originally she would have had a two-toned colored stripe along both sides and along the gunwale. Constructed of plywood sheets, the port and starboard sides of the hull are each comprised of one piece above the chine. The boat has additional plywood sheets below the chine at the bow and the nearly flat-bottom amidships and aft. A splashrail is attached to the outer hull at the turn of the bilge that extends the entire length of the hull; a second splashrail above the first runs from the port and starboard quarters to amidships. The square transom rakes slightly aft and the starboard and port quarters have slight tumblehome. The foredeck is unpainted but varnished, as are the dash, gunwales, stern quarters deck around the motor well (longitudinal beams and corner knees cannot be seen under the stern deck) , the center console that creates both cockpits, and the backs of both the forward and aft benches.[1] The deck beams supporting the foredeck cannot be seen. The foredeck fittings include a navigation light and a deck cleat that are attached to a longitudinal deck beam, and 2 chocks are located on port and starboard. A towing ring is attached through the stempost with a large bolt and 4 step pads are attached to the gunwale in line with both benches. The chrome-bordered windshield is bolted to the foredeck. A Scott-Atwater plate, located in the center of the dash, includes the ignition and choke, and the control for the navigation lights is located on the port side of the dash. The Duotrol steering wheel - unusually on the port side - has a decorative hub that depicts a boat speeding through water and the 2-handled controller is attached to the inner port hull. The steering and electrical cables can be seen lining the inner hull, leading to the 1959 35HP Johnson Super Sea-Horse outboard motor and a Johnson electric start control box in the motor well. The builder's plate is affixed to the inner transom on the port quarter, while the registration number is see on both sides of the bow: MN 3939 JQ. Orange square validation stickers with the expiration date of December 31, 1994 are located next to the registrations; they have been placed on top of stickers that expired on December 31, 2010.

The port and starboard bow of the Crona Craft Deluxe Runabout 1 (MHM)

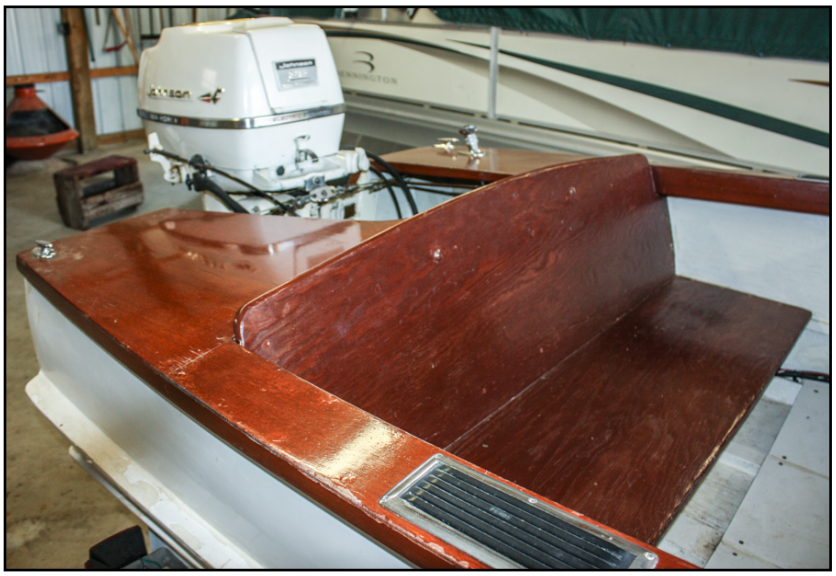
[1]Contemporary sales literature for Crona Craft specify the wood types and sizes used in their construction: bottom (3/8" 3 ply wood), sides (1/4" 3 ply douglas fir), deck (1/4" 5 ply mahogany), transom (1" ply mahogany), keel (1 1/4" x 5" - 10' 3" long mahogany), chines (1 1/4" x 2" solid mahogany) (Tonka Bay Boat Works 1956).

Views of the Crona Craft Deluxe Runabout 1 (MHM)





Views of the Crona Craft Deluxe Runabout 1 (MHM)



Crona Craft

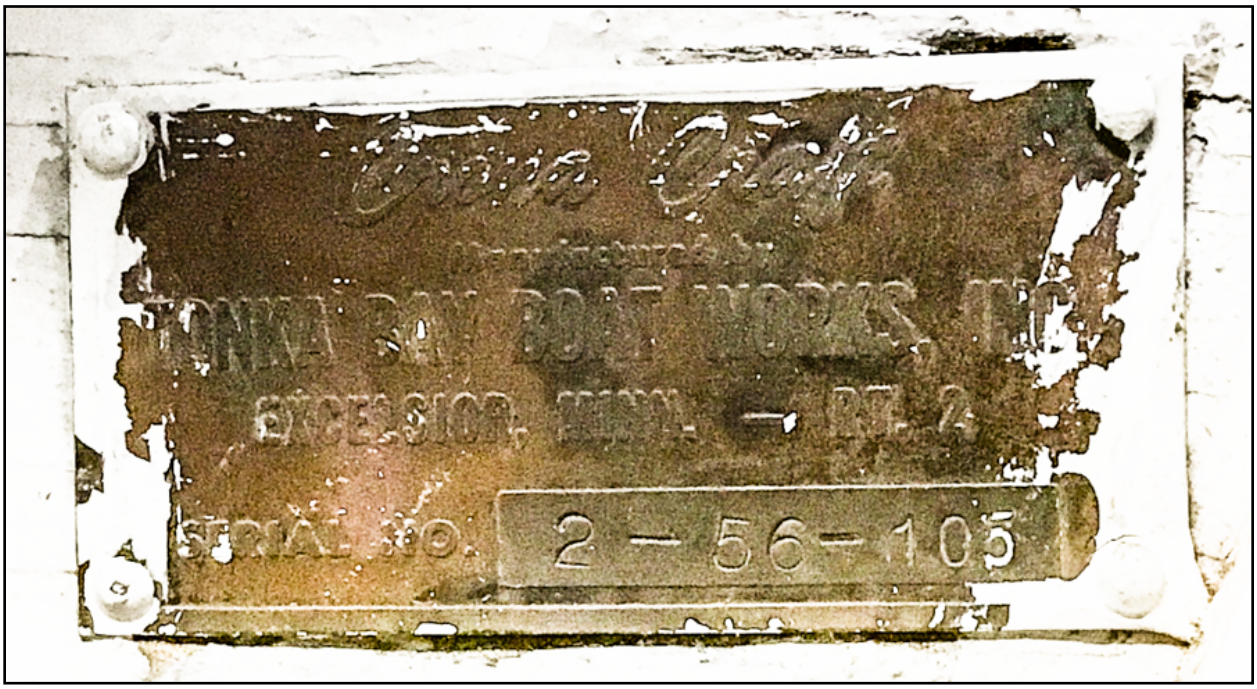
Manufactured by

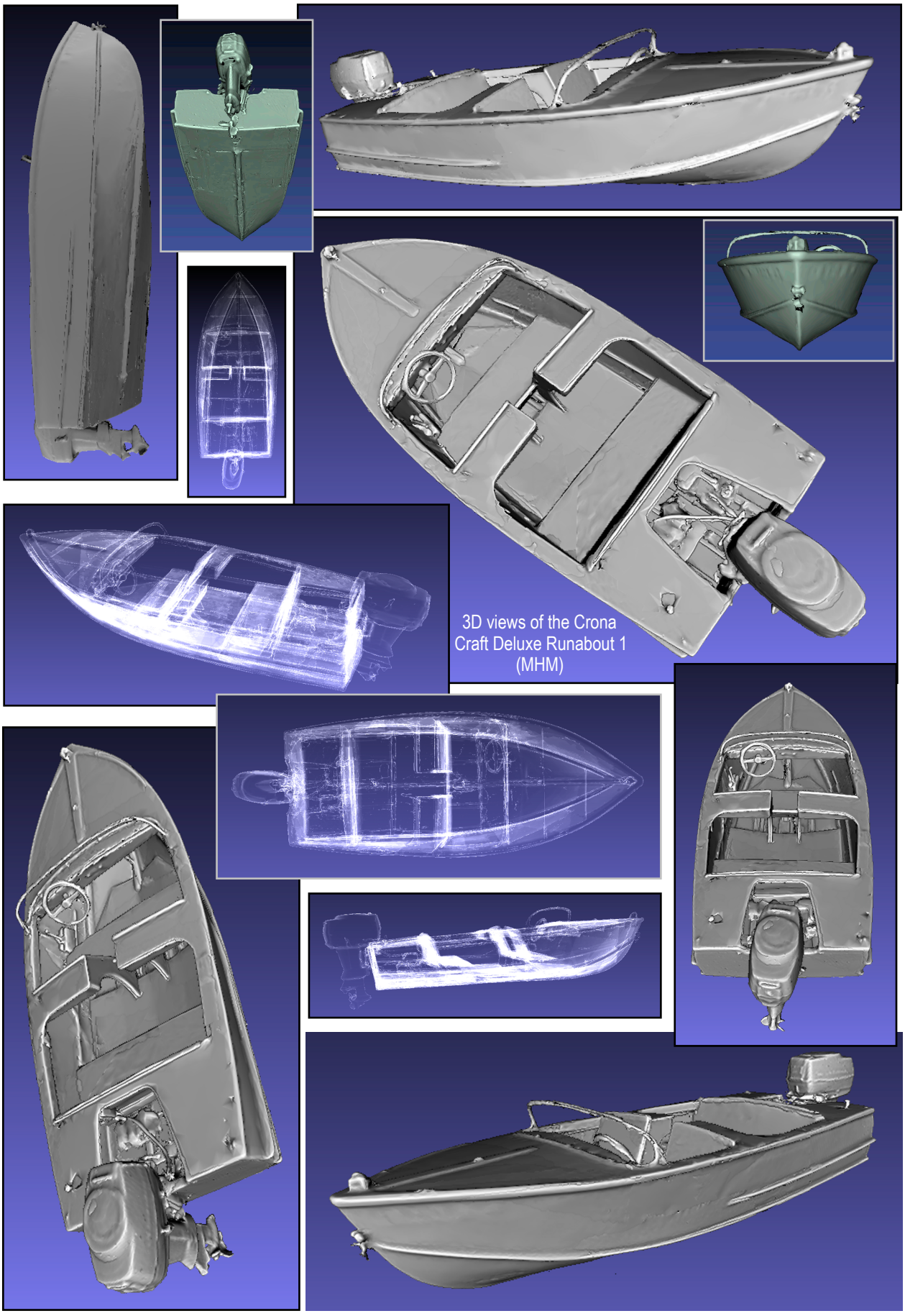
TONKA BAY BOAT WORKS, INC.

EXCELSIOR, MINN - RR. 2

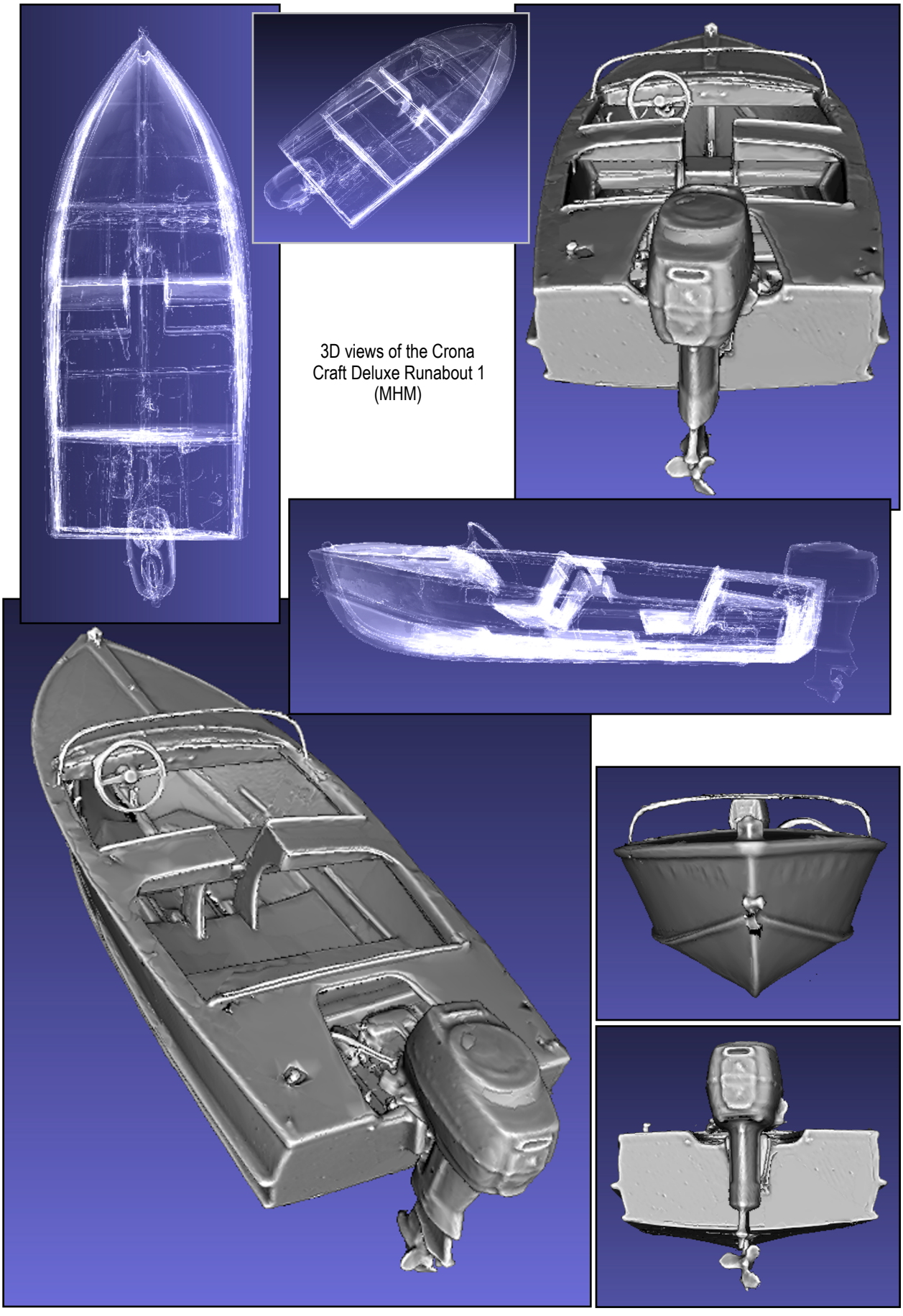
SERIAL NO. 2 - 56 - 105

The boat's builder's plate is inside the motor well on the port side. The boat was the 5th Crona Craft (numbers began with 100 each year of production, therefore 105) constructed in 1956 (56). The '2' could stand for February or the 2nd year of production.





3D views of the Crona Craft Deluxe Runabout 1 (MHM)



3D views of the Crona Craft Deluxe Runabout 1 (MHM)

Description: Tonka Bay Boat Works Crona Craft Deluxe Outboard Runabout-2 (TBBW-CC-2)

MHM documented the Tonka Bay Boat Works Crona Craft Deluxe Runabout 2 (TBBW-CC-2) during 1 day of 3D scanning in May 2020. The boat is under-going restoration and her current state allowed for the study of some of her usually hidden attributes. The replacement process of beams and other characteristics is nearly 'like-to-like' during this refurbishment, allowing for the proper interpretation of the boat's construction. Like her sister TBBW-CC-1, TBBW-CC-2's wooden hull is 13.40 feet long and 5.50 feet in the beam, with a 2.20-foot depth of hold. The stem consists of a trapezoidal (in cross section) stempost and inner squared post, and unlike her sister, the inner post can be seen. The keel is actually more of a 'keel plank' that begins at the end of the stempost - 3.14 feet from the bow - and is flush with the hull bottom to the stern. The inner post extends aft the same distance as the stempost; a 'keelson plank' begins at the end of the inner post. Unlike her sister, the keelson plank is visible along the vessel's midline because her flooring has been removed. From here, the description of TBBW-CC-2 would be similar if not identical to TBBW-CC-1 if it were not for the dismantled/restored nature of the deck and benches. The inner hull bottom attributes of TBBW-CC-2 have been restored, primed, and painted. Four stringers run fore and aft on either side of the keel plank, 2 on the boat's flat bottom and 2 along the inner hull at the turn of the bilge. Two additional stringers are attached to the sides of the inner hull. Inside the bow - and hidden by the deck when completed - a spacer or 'shelf' of sorts spans the bow and rests on the internal hull stringers. The outer hull retains her original white with a two-toned blue swoosh stripe edged in thin red and white lines along both sides and along the gunwale. Constructed of plywood sheets, the port and starboard sides of the hull are each comprised of one piece above the chine. The boat has additional plywood sheets below the chine at the bow and the nearly flat-bottom amidships and aft. The plywood below the chine has been replaced and is unprimed and unpainted. A splashrail is attached to the outer hull at the turn of the bilge that extends the entire length of the hull; a second splashrail, above the first, runs from the port and starboard quarters to amidships. The splashrails were removed and re-attached after the bottom hull plywood was replaced. The square transom is original, but it has been sanded and is currently unpainted. Like the original, it rakes slightly aft and the starboard and port quarters have slight tumblehome. The foredeck has been removed and the athwartships and longitudinal deck beams supporting it have been replaced with primed and painted beams. The stern quarter decks have also been removed, but the original longitudinal beams and port and starboard corner knees remain in place. The aft bench back, gunwales, the center console that creates both cockpits, and amidships port and starboard corner knees are all original to the boat, but have been stripped. The starboard side aft portion of the console has a metal pull button on it that appears to be a navigation or horn control). Both bench seats and the dash have been replaced, the and original nails are exposed on the gunwale and 4 darkened rectangular areas indicate where the step pads were placed. On both the starboard and port quarters, the

Port side of Crona Craft Deluxe Runabout 2 (MHM)

Crona Craft logo survives in red, and on both sides of the bow, the vessel's registration number MN 7556 AA is affixed just under the red border of the gunwale stripe. Additionally, the port side number is joined by an orange square validation sticker that expired on December 31, 1994. The registration number on the validation sticker does not agree with the hull number. The boat's foredeck fittings, dash plate, steering wheel, towing ring, step pads, motor controller, steering and electrical cables, windshield, and builder's plate have been removed from the vessel; they are not currently associated with her as they are being restored elsewhere.

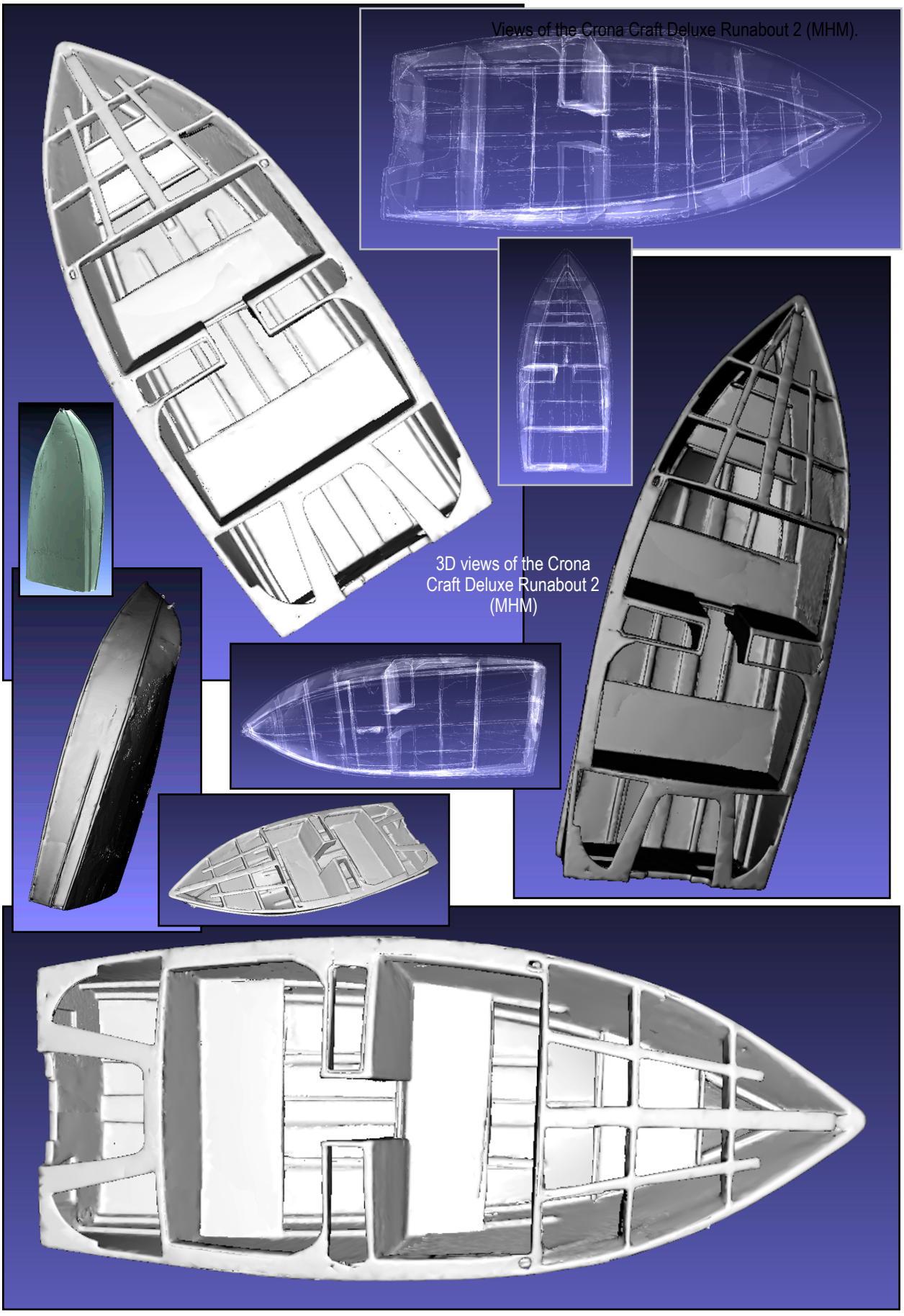
Views of the Crona Craft Deluxe Runabout 2 (MHM)

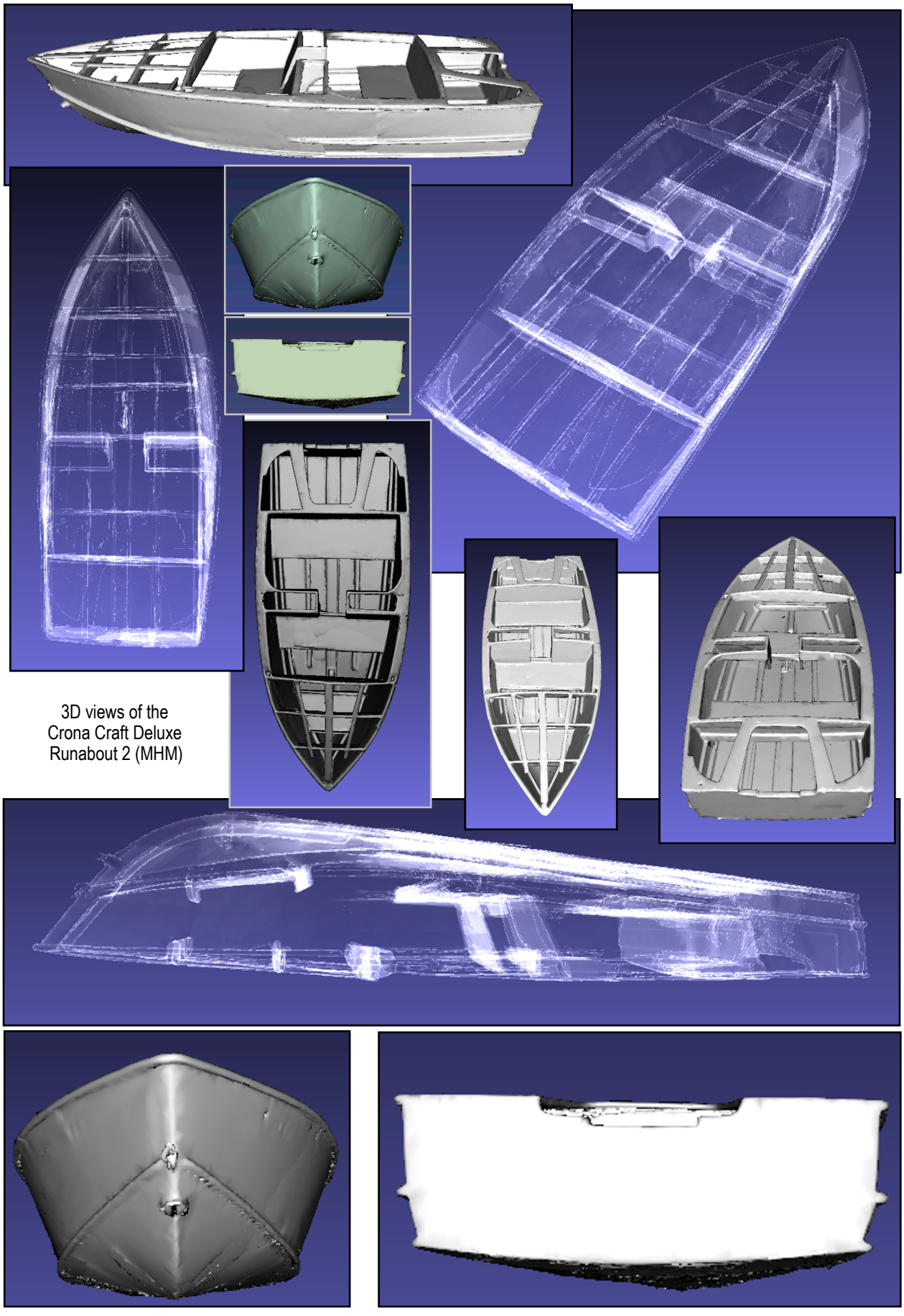
TONKA BAY
BOAT WORKS, Inc.
NOW
AT 2 LOCATIONS

Visit us during the GRAND OPENING of our complete MARINE SHOWROOM, Located at Hwy. #7 & Vine Hill, approx. 1½ mi. West of 7 Hi Theatre, Feb. 23rd, 24th & 25th.
Open 9 - p.m. Sat. & Mon.—Sun. 1 - 7
Showing 1957 Owens Flagships, Higgins, Bell Boy, Cadillac, Crona Craft boats & the all new Scott-Atwater motors, plus the latest in marine equipment.

Tonka Bay Boat Works
RT. 2, EXCELSIOR, MINN.
GR 4-6363 GR 4-9200

(*Minneapolis Star* 1957)

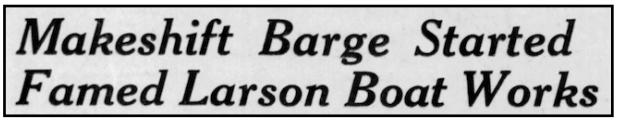

Views of the Crona Craft Deluxe Runabout 2 (MHM).
3D views of the Crona Craft Deluxe Runabout 2 (MHM)



3D views of the
Crona Craft Deluxe
Runabout 2 (MHM)

Larson Boat Works All-American 165 Runabout (LBW-AA-165)
Minnesota Historical Society, St. Paul, MN

History


Makeshift Barge Started
Famed Larson Boat Works

(*Minneapolis Sunday Tribune* 1947)

In 1905, at age 11, Paul Larson designed and built his own scow-ended wooden 10-foot fishing boat in Little Falls, Minnesota. In 1913, at age 19, Larson designed and constructed a double-ended 2-person duck boat for personal use - and started a boat-building business in his spare time. What MHM finds important - and interesting - about this endeavor is the fact that Larson created design plans prior to the duck boat's manufacture. This vessel was 14.00 feet long, 3.00 feet in the beam with a 12.00-inch depth of hold, and was constructed of white pine strip planking with white oak frames. Larson steamed and bent the frames into their proper shape on his own. The production of this small watercraft resulted in his first orders for boats by local hunters who recognized his talent. He erected his first boat works on a piece of family-owned land on the Mississippi River and he incorporated Larson Boat Works in 1916. Assisted by the development of small outboard motors, the number of small wooden boats produced by Larson for Minnesotans around Little Falls steadily increased - and they were constructed to accommodate outboards. In 1922, Larson expanded his business by becoming the first Minnesota dealer of Johnson outboard motors. This partnership directly affected Larson's boat designs – as Johnson motors gained power, resulting in increased speed – Larson introduced racing boats to their line of available watercraft for purchase. Larson advertised "clinker rowboats and strip built (smooth skin) boats for outboard motors. Description and prices on request. Paul G. Larson, Little Falls, Minnesota". With increased business in the mid-1920s, Roy Larson, Paul's brother, joined the company to oversee outboard motor sales and their service. Also, Paul became known for his boat racing ability and he won several trophies for piloting the "boat of Minnetonka fame" *Comet* to victories at various Minnesota lakes.[2] By mid-1929, the variety of wooden boat types available for sale by Larson included stepless hydroplanes and one step hydroplanes that were intentionally designed to accommodate all sizes and brands of outboard motors. Additionally, outboard and row boats in 14.00, 16.00, and 18.00-foot lengths made from cedar strip strakes with white oak frames. The Larson motto, "Beauty, strength and *safety* in every Larson Boat" was featured in their advertisements (*Brainerd Daily Dispatch* 1923, 1929a; *Minneapolis Sunday Tribune* 1929; Plueddeman 1988, 123; Sommers 2000, 8-11).

BOATS FOR SALE—Clinker rowboats and strip built (smooth skin) boats for outboard motors. Description and prices on request. Paul G. Larson, Little Falls, Minnesota. 6653-289t6

(*Brainerd Daily Dispatch* 1923)

An indicator of the popularity and significance of boating - and fishing - is shown by the scheduled "Larson Boat Works Program" at 8 am on WRHM Radio on July 2 and July 4, 1929. The following month, during a race at Red Wing, Paul Larson was involved in a serious collision, and even though Larson was technically in critical condition, he retained his composure and piloted his damaged boat - *Spirit of 770* - to safety. A large

[2]Paul Larson won the Labor Day Regatta at Lake Minnetonka in 1928, in addition to the Class C and the 'Free For All' races at Lum Park at Brainerd in 1929, and other similar races (*Brainerd Daily Dispatch* 1929a-b; *Minneapolis Morning Tribune* 1929).

wooden piece went through his shoulder and imbedded there, protruding out of both sides of his body. Internally, a smaller 'splinter' and a metal screw lodged themselves between his lung and a bone in his shoulder, requiring surgery for their safe removal. Larson Boat Works also provided watercraft for 'motor boat marathon races' that pit their own vessels representing different towns against each other. In marathon races, the object of the event was to keep the boats running constantly for 2 or more days. In the mid-1930s, Larson Boat Works, produced watercraft for vacation resorts, special order vessels for specific buyers, and “wooden boats for the masses”. The types constructed included fishing boats, utilities, and runabouts that could be outfitted with windscreens, running lights, and what was termed “fancy upholstering”. Additionally, utilitarian watercraft such as duck boats - both new and used - were offered for sale at the Boat Works for as little as $7.00; offered were both all-wood and canvas covered models (*Minneapolis Star* 1929a-b; *Brainerd Daily Dispatch* 1929c; *Little Falls Daily Transcript* 1929; *St. Cloud Daily Times and Daily Journal-Press* 1932; *Minneapolis Sunday Tribune* 1934; Sommers 2000, 16).

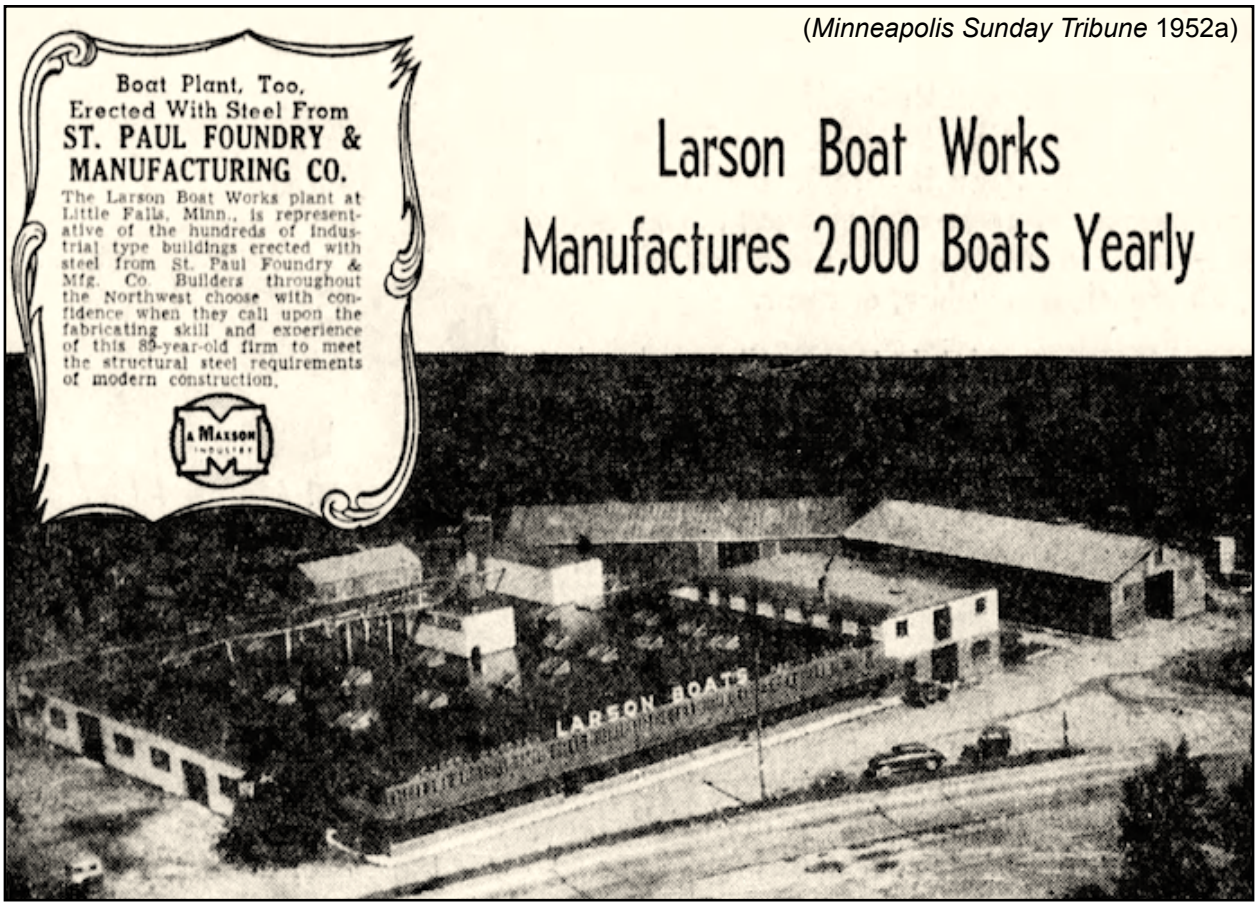
In August 1936, Larson Boat Works purchased a section of land for $300.00 - from the City of Little Falls for an addition to their building. The new section would be a warehouse that measured 30.00 feet by 90.00 feet. The business expansion was due to the high demand for the company's watercraft; 20 men were kept working full time during the summer and 13 during the winter months. With the additional space available in 1938, Larson introduced the Falls Flyer, “a fast, sleek, sporty outboard runabout with as many contours as cedar strips and canvas covering would allow”. The Falls Flyer design was referred to as ‘futuristic’, and Larson's patent application characterized it as a "new, original and ornamental Design for Boats". Larson named the vessel to honor Little Falls native flyer Charles Lindbergh. The company's momentum was brought to a halt on December 13, 1949 when a fire broke out in the main warehouse building where Larson boats were constructed; the fire was fueled by varnish, paint, and wood. The fire spread from the main building to 2 others and all 3 burned to the ground; a night watchman also perished. Paul Larson reported that 400 boats were destroyed by the fire. Larson Boat Works was back in production by Autumn 1950, and the grand opening was celebrated on April 26, 1951. The new boat buildings were larger and better equipped than the destroyed facilities. In the early 1950s, the Falls Flyer design underwent changes that retained speed, especially when the hull was manufactured using fiberglass

(*Minneapolis Star Journal* 1940)

Man Killed, Flames Level Boat Works

Larson Plant Blaze Starts During Night

(*Winona Republican Herald* 1949)



(*Minneapolis Sunday Tribune* 1952a)

beginning in 1954. In preparation for manufacturing entirely molded fiberglass watercraft, in 1953 Larson offered their wooden-hulled boats with a protective skin of fiberglass if their customers ordered that modification to their vessel. By 1956-1957, Paul Larson understood that the prosperity of his company - like other firms heading toward primarily-fiberglass boat construction after World War II - depended on training his Little Falls area workforce in molded fiberglass manufacturing techniques. Larson also recognized the need to expand the company through the licensing of his designs for all-fiberglass boats to other, already-established manufacturers in California, Wyoming, Georgia, and Ontario, Canada. To assist him with this goal, Larson took on a new business partner with experience in national sales, Earl Geiger, and sales and marketing expert Chuck Gravelle. Together, these men ascertained that the company needed "the ability to offer a medium-size, family-friendly outboard runabout for a dollar figure an average American (or Canadian) family could afford - and then throw some useful extras in the deal...without jacking up the boat's reasonable suggested retail price." The watercraft design that would be "Larson's ticket to the boating boom's biggest batch of buyers was introduced in 1956 and named the All American" - a 16-foot long fiberglass runabout with a wooden deck and interior (*St. Cloud DailyTimes* 1936; *Brainerd Daily Dispatch* 1949; *St. Cloud Daily Times* 1951; *Winona Republican Herald* 1949; *Minneapolis Sunday Tribune* 1952a; Sommers 2000, 24; Hunn 2006, 84-85; Geiger 2009, 1-4).

A 1956 Larson All-American with a wooden deck.

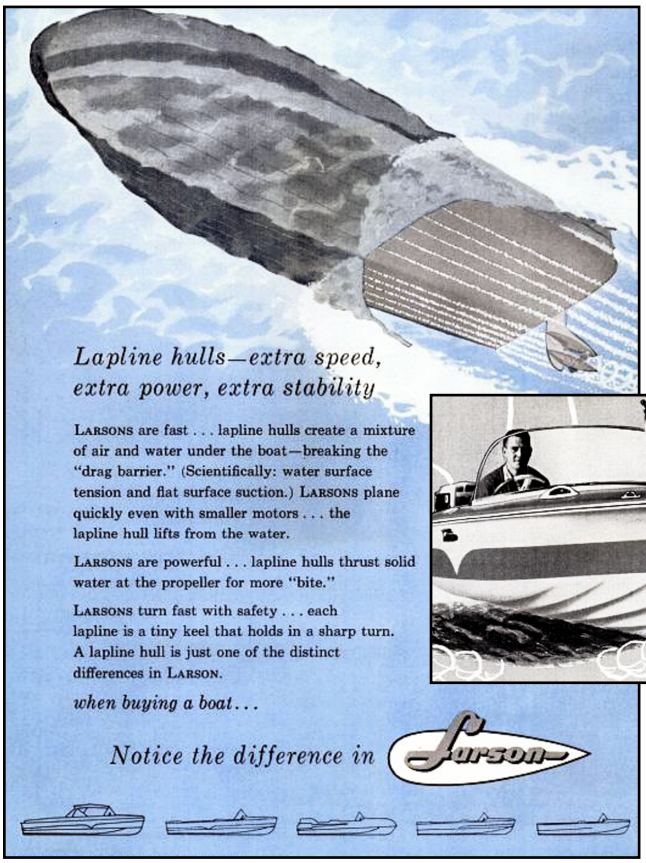
The Larson Boat Works All-American Runabout

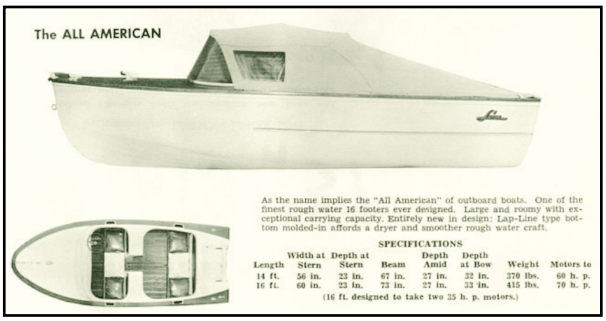
The affordable fiberglass All-American Runabout was produced and sold at a relatively low cost because Larson's boat production team took advantage of the newly-developed Rand Chopper Gun, and determined its viability for use in hull manufacturing. The RCG sprayed a combination of chopped up fiberglass fibers and resin into molds to produce hulls. This time-saving procedure - that was much faster and more precise than hand-application of fiberglass into a mold - allowed Larson's workforce to produce lightweight - and generic - watercraft, with a long list of standard accessories. Then, the Larson sales team and their licensed partners provided points of distinction as add-ons to increase profits and produce more elaborate - but still economical - family watercraft. The All-American's "lapline hull" below the waterline with a smooth hull above it distinguished this model in the late 1950s. MHM refers to fiberglass watercraft with this design, above or below the waterline, as either faux lapstrake or faux clinker. In 1957 a smaller 14.00 foot long All-American was produced alongside the 16.00 foot long model - also constructed with a wooden deck and interior. National attention was gained for Larson in late 1957 when a 1958 model All-American was a featured item on the new prime-time TV show, 'The Price is Right'. Most All-Americans were adorned with a colored stripe, characterized by some as the 'mermaid's kiss', a spear, or an arrow. This decoration makes vintage All-Americans - and other Larson models of the 1950s-1960s - easy to spot on Minnesota's lakes and rivers, even now. Year after year, Larson produced the versatile and dependable All-American – "a family boat, a fishing boat, a party boat...the greatest name in boating value". By the end of nearly four decades of production of the All-American in 1994, the model was "undoubtedly the largest selling runabout model ever produced in the world" (Sommers 2000, 31; Hunn 2006, 85).

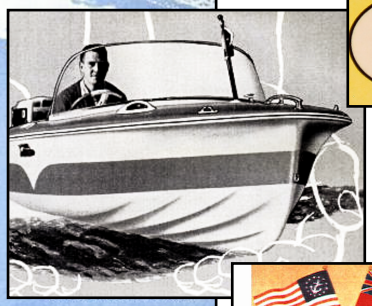
(*Minneapolis Star* 1956)

In regards to Larson Boat Works, the company was sold to Brunswick Corporation in 1960, joining the line-up of Owens Yachts and Cutter Boats that were produced by the company. By 1963, Brunswick's production of Larson watercraft out of Alliance, Ohio, was not successful. A group from the Little Falls business community, with Earl Geiger as the negotiator, bought Larson Boats back from Brunswick - and with it, production in Little Falls. In 1966, Larson Industries purchased Glasspar Boat Company of California, the C.A. Lund Company of Minneapolis, and

Northland Skis[3] of St. Paul. The next year, Larson Industries acquired Rolite, Inc. travel trailers, and that year, sales were reported to be $31 million. As the decades moved in Larson Industries went bankrupt, was purchased by a few other companies and left Minnesota. In 2019, the Larson Boat Group was purchased by Polaris, Inc., of Roseau, Minnesota, but watercraft production is taking place in Indiana (Geiger 2009, 1-8; *Boating Industry* 2019).







(Larson Boat Works, Inc. 1957, 1959; *Popular Boating* 1959a-b; *Minneapolis Star* 1959)

[3]Northland Hockey Sticks, a subsidiary of Northland Skis, controlled 90% of hockey stick production and sales in the United States. Eighty percent of NHL players used Northland's sticks, and 450 players ordered custom hockey sticks from the company (Geiger 2009, 7).

(Larson Boat Works, Inc, 1960)

Description: Larson Boat Works All-American 165 Runabout (LBW-AA-165)

MHM documented the Larson Boat Works All-American Runabout (LBW-AA-165) during 1 day of 3D scanning in June 2020 at the MNHS. The LBW-AA-165's fiberglass hull is 16.00 feet long, 6.20 feet in the beam, and 5.20 feet at the transom. The molded construction of the boat leaves the hull seamless, with the exception of the join of the 'deck mold' with the 'hull mold'. The 'hull' is comprised of the 'lapline' bottom below the waterline that widens out at the turn of the bilge. The rounded bilge at that point in the hull acts as a splashrail of sorts. The outer hull has 1 more molded 'step' before the smooth hull begins as the boat flares outward to the gunwale. The pointed bow is somewhat bluff and toward amidships, the hull widens out for stability. The square transom is designed to accommodate an outboard motor and 2 handles are located on port and starboard. On both port and starboard, the iconic Larson 'mermaid's kiss', arrow, or spear - whichever description suits the boat's owner - is depicted in red within the white hull. The *Larson* logo is adhered to the hull on the port and starboard quarters, along with the number **'6'**, and the 'All-American' logo is found amidships on both sides of the boat above the 'mermaid's kiss'. The boat's registration number, MN 3647 FR, is affixed on the port and starboard bow , along with a 1994 validation sticker; MHM confirmed with the DNR that the boat is a 1959 16-foot long Larson fiberglass watercraft (John Nordby, Personal Communication, March 2017).

Starboard side of Larson Boat Works All-American 165 Runabout (MHM)

LBW-AA-165's 'deck' consists of a red molded fiberglass foredeck, gunwales, dashboard, seats, and self-bailing motor well. The foredeck is fitted with several chrome fittings including a bow lifting handle, navigation light, deck cleat, compact AFI horn, and 2 chocks. On both quarters, step pads and chrome cleats remain affixed to the gunwale, while on the port side quarter, a mast light is also found. The driver and front passenger seat is actually a bench formed in the deck mold. Cubbies were formed automatically during the fiberglassing process under the rear seats and in between the forward bench backs and the rear-facing back seats. Vinyl seat cushions were available for inclusion on the LBW-AA-165 but none are associated with this boat. The dash has a Johnson electric start plaque, dash plate, ignition, and horn button, along with a light button and choke; the white Johnson 2-handle controller is attached to the inner starboard hull. A Curtiss-Wright 'Wheelsman' white-colored steering wheel with the 'hands-free' logo on its round hub cap is also extant. Sharp edges are softened with trim throughout the vessel and cover snaps are attached to the proper points around the hull. The boat has a rugged vinyl rubrail that strongly adheres the 'deck' to the hull, and a white bimini top and frame survives.

Due to the fiberglass nature of the boat, she does not have the traditional attributes seen in wood, steel, and aluminum watercraft. Further, some hull characteristics that are present are often hidden from view. Fortunately, the 1959 All-American was chosen by Popular Boating for performance, quality, and safety tests - and their technician

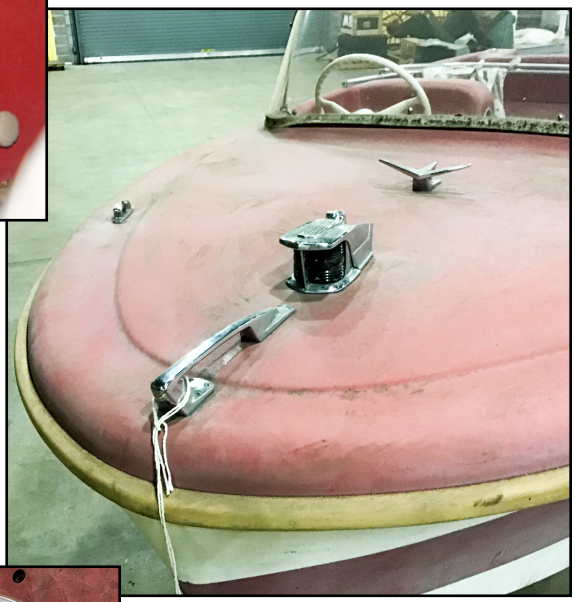
inspected the vessel's internal construction and design. In consideration of unseen construction attributes, the LBW-AA-165 does have wooden frames, cedar strips were incorporated into the fiberglass in the lapstrake section, and bundles of fiberglass threads that were soaked in resin and then stretched and folded -akin to the taffy-stretching process - added great strength to the hull. In addition, further construction attributes deemed significant in terms of quality and usability included molded channels designed to fit wrap-around windshields and a molded lip around the cockpit coaming to properly channel water away from the boat's users. A major - unseen - feature of the All-American, located behind the vessel's interior side panels in the fore and aft cockpits and in the bilge, is an impressive quantity of flotation foam. Larson included 4 cubic feet of foam within the amidships section and 10.00 cubic feet within the bilge of their All-Americans - 844 pounds of positive buoyancy. It was noted that the placement of a large amount of foam in the boat's sides and bilge not only served as a safety feature, it also strengthened the hull and impaired rolling if swamped. Lastly, the boat's identification as model 165 stems from her Dupont vinyl interior and the Curtiss-Wright Wheelsman Safety Lock Steering, options offered for that model exclusively (Bowman 1959; Larson Boat Works 1959). The LBW-AA-165 carries a white 1959 Johnson Super Sea-Horse 50 HP motor.

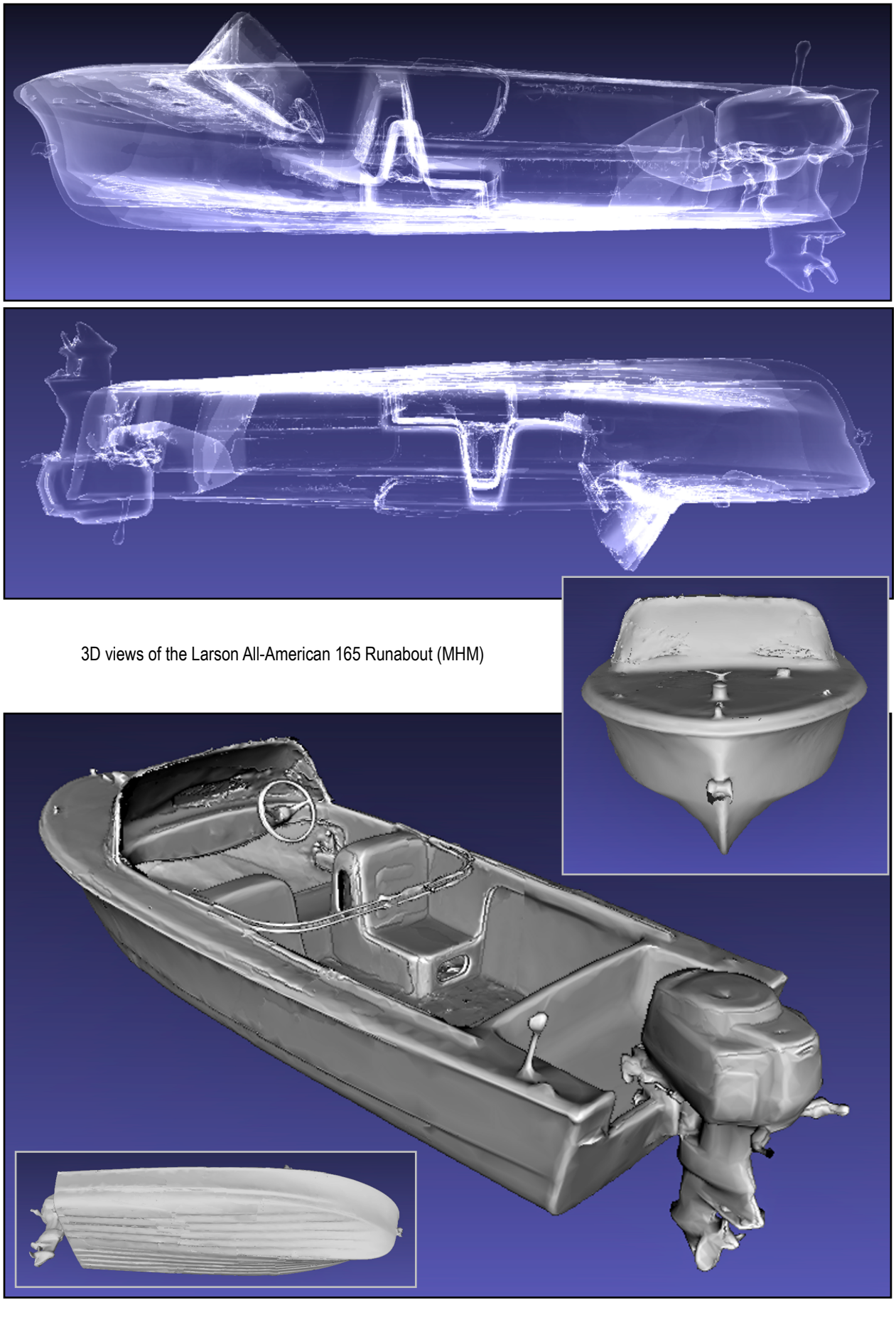
Views of the Larson All-American 165 Runabout (MHM)

Views of the Larson All-American 165 Runabout (MHM)

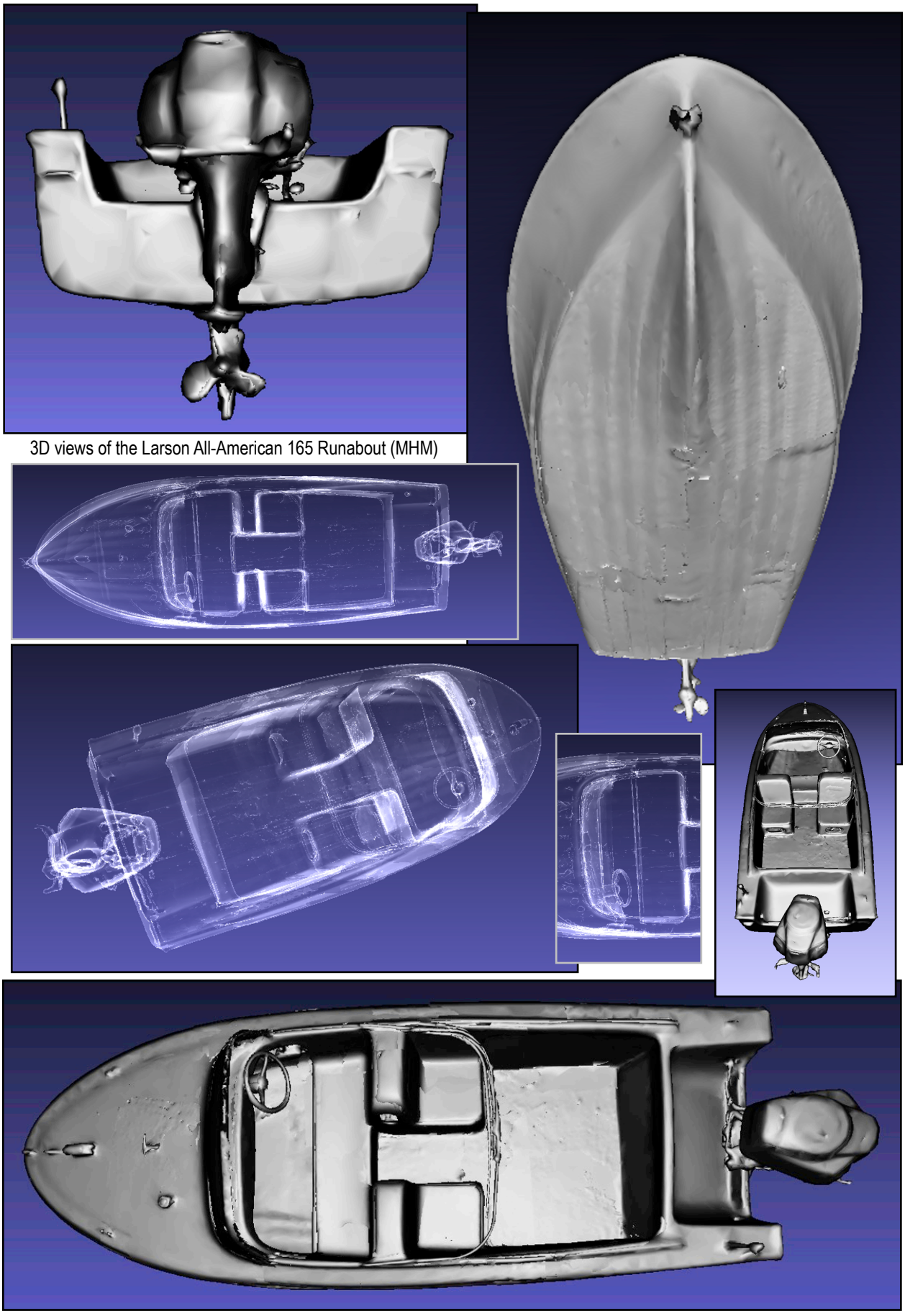
Views of the Larson All-American 165 Runabout (MHM)

Larson Boat Works, Inc. Builder's Plate

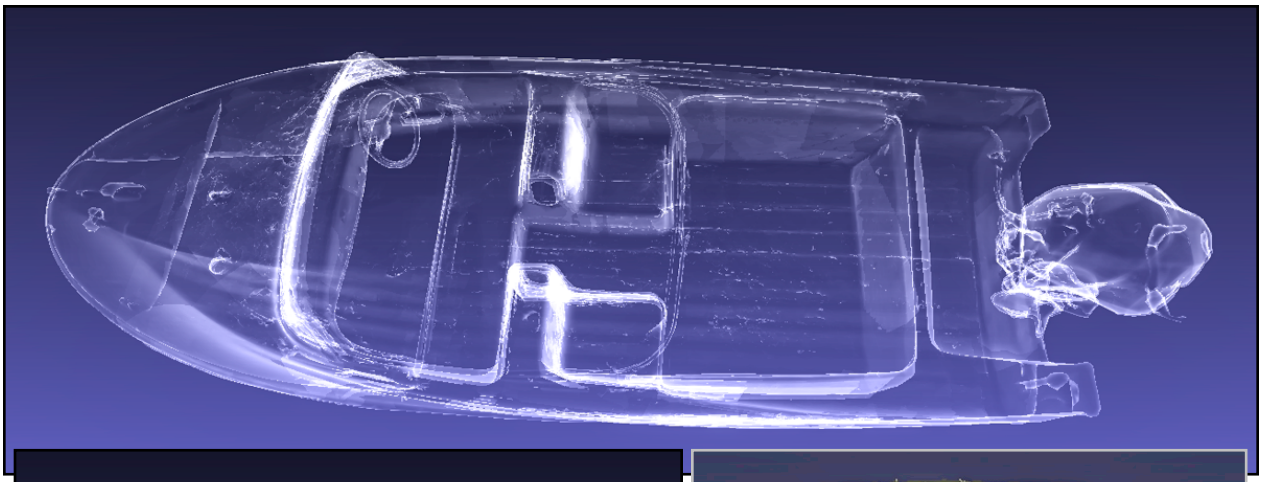


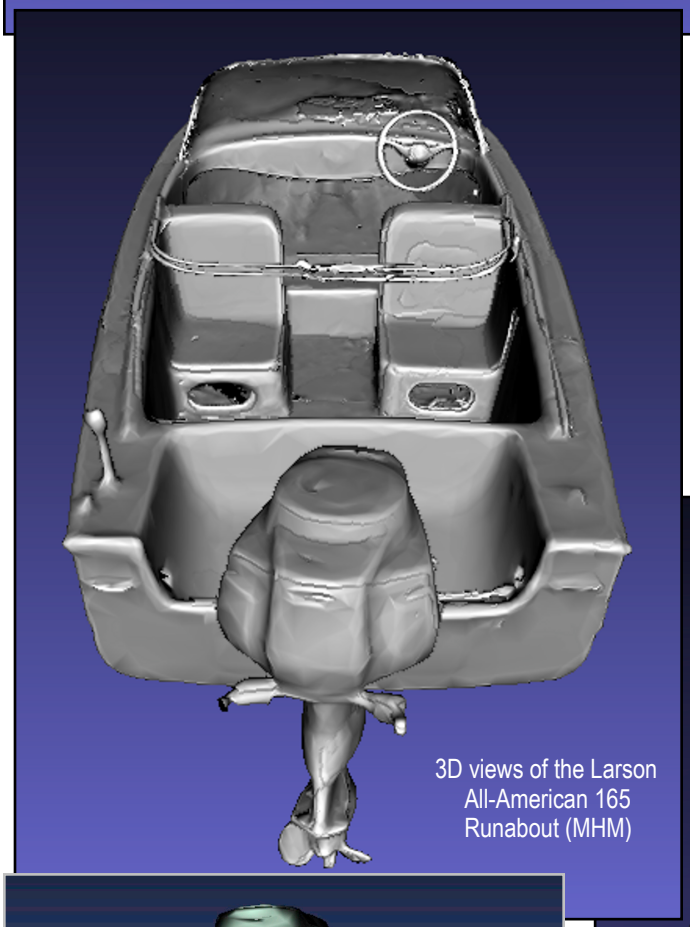


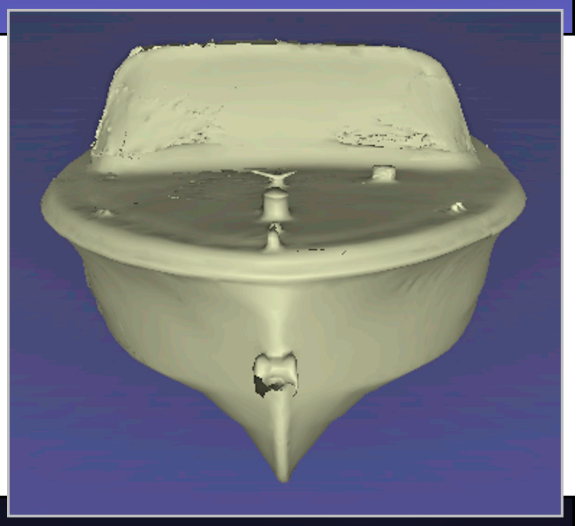
3D views of the Larson All-American 165 Runabout (MHM)

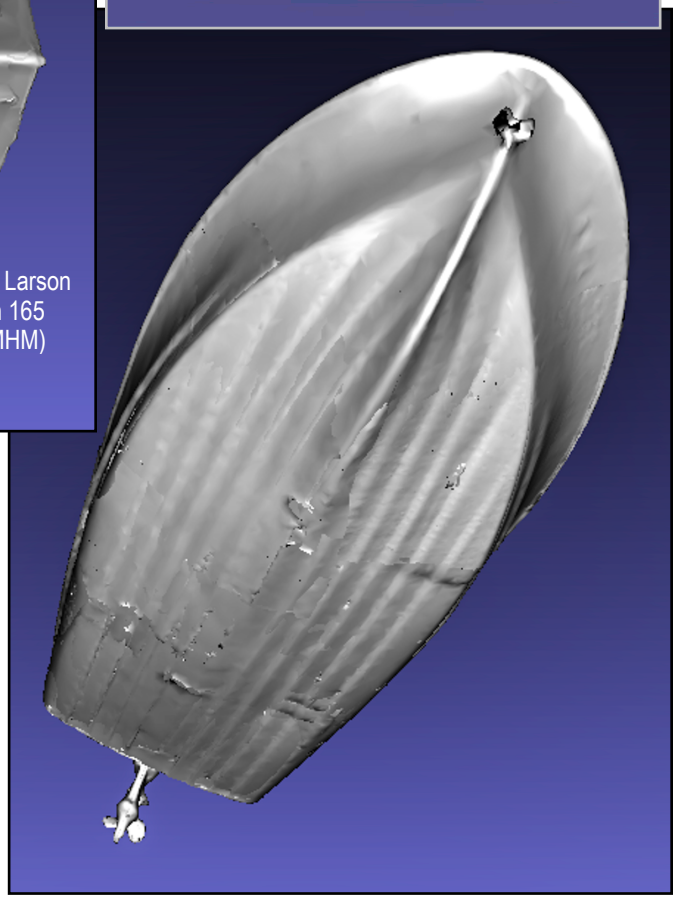


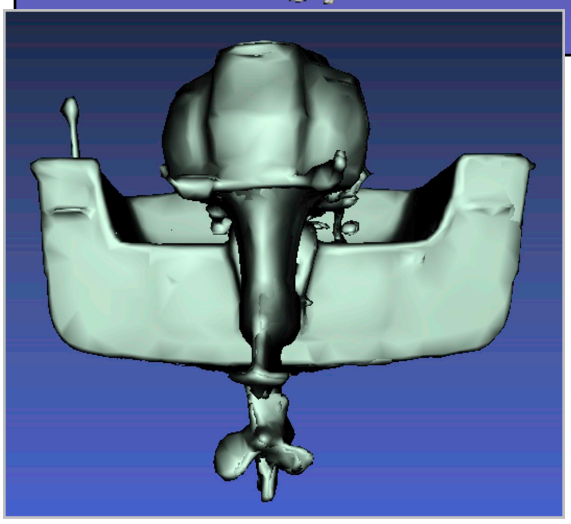
3D views of the Larson All-American 165 Runabout (MHM)











3D views of the Larson All-American 165 Runabout (MHM)

Hugo's Boat Works Sportsman G16 Runabout (HBW-SG16)
Silverwood Park, St. Anthony, MN

History

MHM learned of the existence of the Hugo's Boat Works Sportsman G16 Runabout from an acquaintance during a previous watercraft documentation project. The watercraft is one component of an outdoor 'sculpture' open to the elements in Silverwood Park in St. Anthony, MN[4]. Regardless of the boat's location now, she was designed and constructed by Hugo Gross of Onamia, MN; his wife Janet Gross finished the boats with layers of paint and varnish. Hugo began his boat-building career as a temporary employee at the Vivant Boat Company[5] in South Harbor Township in Mille Lacs County. Prior to opening his boat shop, Samuel D. Vivant, in 1920 and 1930, operated a blacksmith shop in Wahkon, MN. Vivant also operated 'Vivant's Resort' that touted 'DEEP WATER FISHING' - in maximum of 42.00-foot-deep Mille Lacs Lake. Area resident Neva Williams recalled the watercraft construction industry that she knew as a child. Williams reported that "we had great boat-builders here in the area. There was a boat builder, Vivant Boatworks, down on the south end of the lake". The significant of Mille Lacs area boat production and use in 1938 was evident during a brief survey of the activities of south shore boat builders in Wahkon, Isle, and Onamia. It was reported that "the Vivant boat shop at Harrington corner is engaged on the spring quota of rowboats, with some orders yet to fill". Vivant's watercraft were constructed and sold throughout the 1940s; one example was even located for sale in Lathrop, Missouri: "WILL SELL MY BOAT: 14' Minnesota built (Vivant Boat Company) Used one season, docked and painter[d]. Gerald Cross, Lathrop. 30". In 1950, the first prize for a letter-writing competition that began 'Mille Lacs Lake Is the Safest Lake in Minnesota Because...' was a Vivant Boat Company vessel, "Specially built...18ft. Mille Lacs Special Boat with natural finish, varnished deck and a new 5 H.P. Johnson outboard motor". The contest was sponsored by the Mille Lacs Lake Resort Association of Onamia. Two years later, Sam Vivant passed away, characterized as "well known in the Minnesota fishing and resort business in the Mille Lacs lake area" (United States Federal Census 1920b, 1930c; Vivant 1936, 18; *Mille Lacs Messenger* 1938; *Lathrop Optimist* 1949; *Minneapolis Sunday Tribune* 1950a; *Minneapolis Morning Tribune* 1952; Minnesota Department of Health 1952; *St. Cloud Daily Times* 1952; Fogerty 2000, 35).

A map showing resorts and boat builders on Lake Mille Lacs in the 1940s, including Vivant Boat Company marked in light blue (Mille Lacs Lake Resort Association ca 1946).

[4]The other components of the wooden 'sculpture' are a Gar Wood Runabout, a 1968 Thompson Runabout, and a Larson Fishing Boat.

[5]The name of the company alternated between Vivant Boat Company and Vivant Boat Works, depending on when the business was being referred to and who was referring to it (Minnesota Resources Division 1946, 316).

TELL THE WORLD WHY . . .

MILLE LACS IS MINNESOTA'S *Safest Lake!!*

and WIN a Valuable PRIZE

Write Us Your Letter, In 25 Additional Words or Less, Completing This Sentence:

"Mille Lacs Lake Is the Safest Lake in Minnesota Because . . . . . .

HERE'S WHAT TO DO!

Write us a short letter not over 35 words, telling us why you know Mille Lacs Lake is Minnesota's safest. Start your letter with the words: "MILLE LACS LAKE IS THE SAFEST LAKE IN MINNESOTA BECAUSE . . ." We will award the special built 18 ft. Mille Lacs Boat complete with new 1950 Johnson 5 H. P. Sea Horse with alternate firing and neutral clutch. Second prize a week's vacation (all expense except transportation) for two at any resort listed in the new Mille Lacs folder which will be mailed all contestants.

POINTERS TO HELP YOU WIN:

Mille Lacs Lake with one hundred fifty miles of shore line has miles of safe sandy beaches and has an average depth of less than forty feet. The ninety-six resort members of the Association have approximately 2000 wide 16 and 18 foot row boats and almost 100 large safe launches for fishing and pleasure. Champion fishermen know Mille Lacs is best for fishing, and family vacationers love the cool water, safe, sandy beaches.

FIRST PRIZE:

Specially built by the famous Vivant Boat Co., an 18 ft. Mille Lacs Special Boat with natural finish, varnished deck and a new 5 H.P. Johnson outboard motor.

2ND PRIZE:

A glorious one week vacation for two. (All expenses, except transportation.) You have your choice of any resort listed in the new folder.

MILLE LACS LAKE RESORT ASSOCIATION

ONAMIA, MINN.

CONTEST RULES

(READ CAREFULLY)

1. Complete this statement in 25 additional words or less: "Mille Lacs Lake is the safest lake in Minnesota because . . . . . .

Use any plain paper but write on one side of paper only. Please write your name and address legibly.

2. Mail your entries together with one dollar to Velma Roland, Secretary, Mille Lacs Lake Assn., Onamia, Minnesota. All entries that do not enclose one dollar will not be considered for the prizes.

3. Contest opens May 7th, 1950, and closes at Midnite June 17th, 1950. Entries postmarked later than midnite June 17, 1950, will not be accepted.

4. Any contestant may submit as many entries as they wish provided one dollar accompanies each letter.

5. Entries will be judged by Superintendents of schools Earl Ireland of Onamia and Palm of Isle and three directors of the Mille Lacs Lake Assn.

6. Judges' decisions are final. Duplicate prizes in case of ties. Entries become the property of The Mille Lacs Lake Assn., Onamia, Minn., and none will be returned.

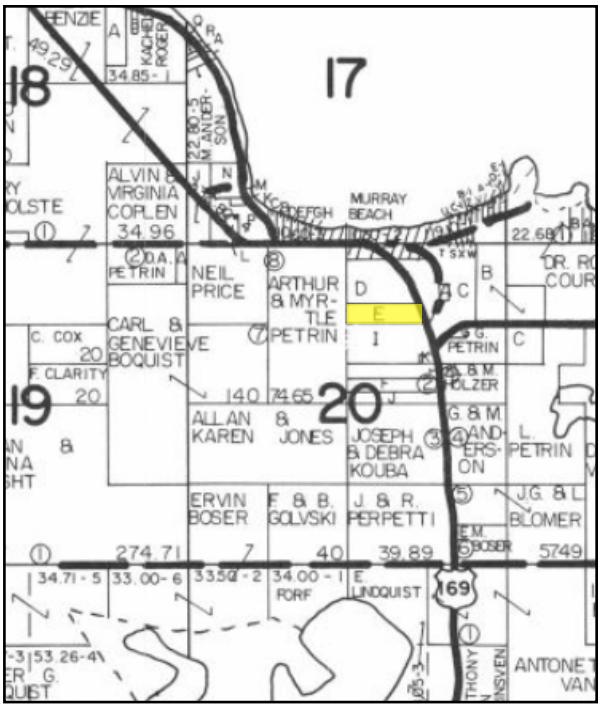
7. Contest open to all people living within the continental limits of the United States; except members of the Mille Lacs Lake Assn., Judges and their immediate families.

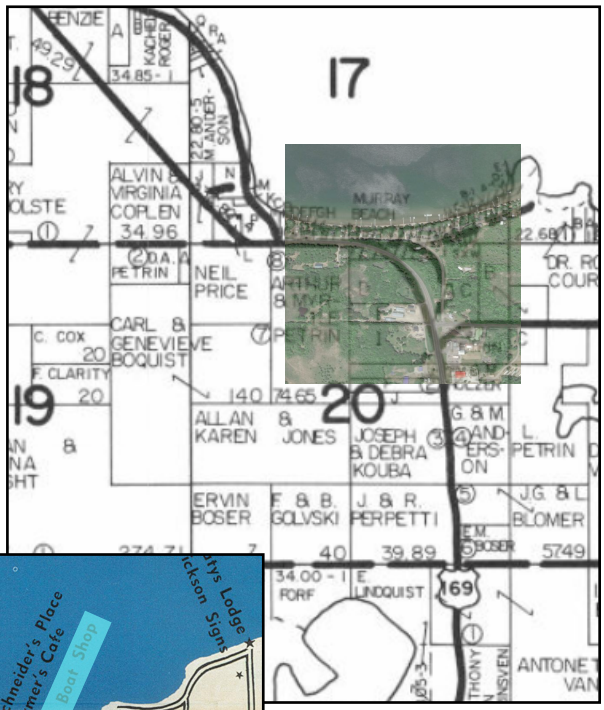
8. Contest subject to all Federal and State regulations.

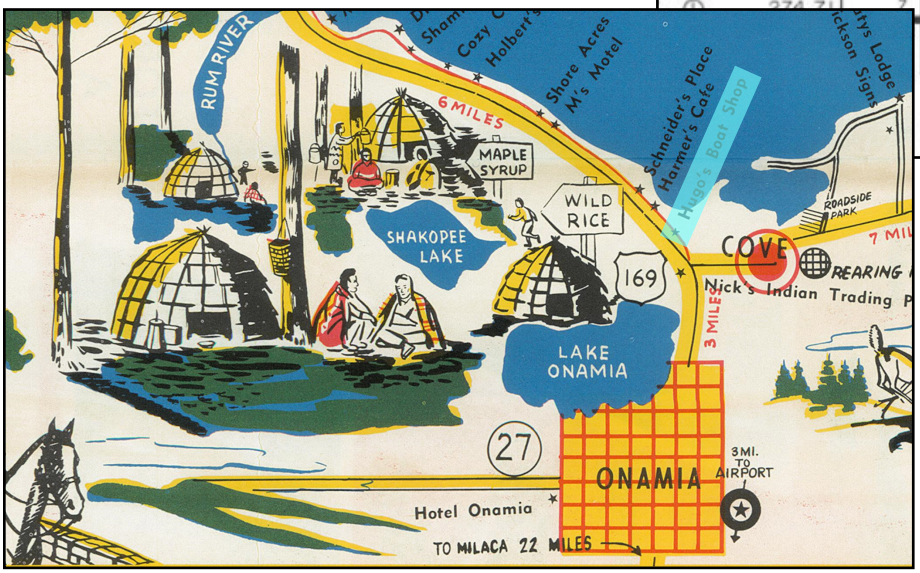
10. Winners will be notified by mail on or before July 1st, 1950. Winners lists will be sent upon receipt of self-addressed stamped envelope.

11. As soon as your entries are received the Secretary of the Association will mail to your address one of the new Mille Lacs Lake folders in five colors.

12. When you submit an entry in this contest, it is an express acceptance of these rules.



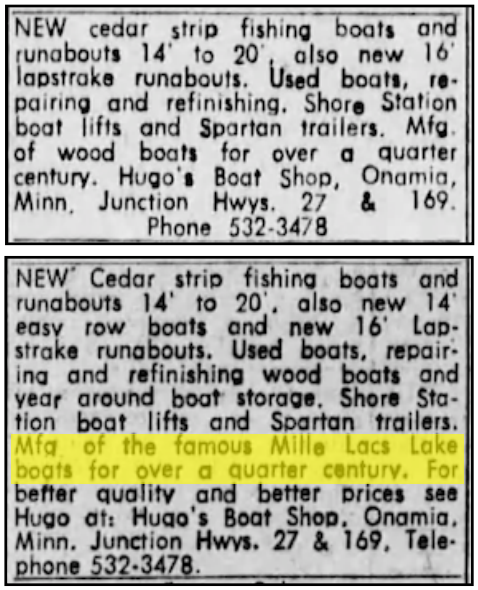




Like Tonka Bay Boat Works, Vivant Boat Company provided one of their boats as a contest prize (*Minneapolis Sunday Tribune* 1950a).

A South Harbor plat map shows the plot of land where Vivant Boat Company and then Hugo's Boat Works was located - Plot E in yellow. The colored inset shows the modern track of Highway 169. Another resort map indicates that Hugo's Boat Works was located on the same land as Vivant Boat Company marked in light blue (Title Atlas Company 1975, 4; Mille Lacs Lake Resort Association ca 1956).

Hugo Gross took over the boat-building business after working with Vivant for 15 years, following his employer's death. Janet Gross worked alongside her husband as a partner in the business, painting and varnishing completed wooden boats. Evidence suggests the name of the company did not change for a few years; as late as 1956 and1957, it was still known as the Vivant Boat Shop. During the firm's busiest time, Hugo's Boat Works[6] produced 140 boats yearly; and Hugo's brother helped out in the shop. Hugo and Janet were known to comment that "We were always behind on building boats. We couldn't build them fast enough" - the vessels were sold before Hugo began their construction. He would take a customer's name, address, and a monetary deposit; two or two and a half years later they would have a custom-built cedar strip boat. In addition to boat construction, the Gross partners diversified their services with the sale, installation, and pre-winter removal of boat lifts and the sale of boat trailers. By the mid-1960s, Hugo's Boat Shop advertised their "NEW cedar strip fishing boats and runabouts 14' to 20', also new 16' lapstrake runabouts. Used boats, repairing and refinishing...Hugo's Boat Shop, Onamia". Hugo's also sold Starcraft aluminum boats and the firm offered year around boat storage. Hugo was also a dealer of Allouete snowmobiles to increase business during the winter months. The company touted their production "of the famous Mille Lacs Lake boats for over a quarter century"



NEW cedar strip fishing boats and runabouts 14' to 20', also new 16' lapstrake runabouts. Used boats, repairing and refinishing. Shore Station boat lifts and Spartan trailers. Mfg. of wood boats for over a quarter century. Hugo's Boat Shop, Onamia, Minn. Junction Hwys. 27 & 169. Phone 532-3478

NEW Cedar strip fishing boats and runabouts 14' to 20', also new 14' easy row boats and new 16' Lapstrake runabouts. Used boats, repairing and refinishing wood boats and year around boat storage. Shore Station boat lifts and Spartan trailers. Mfg. of the famous Mille Lacs Lake boats for over a quarter century. For befter quality and better prices see Hugo at: Hugo's Boat Shop, Onamia, Minn. Junction Hwys. 27 & 169. Telephone 532-3478.

(*Minneapolis Tribune* 1965, 1967a)

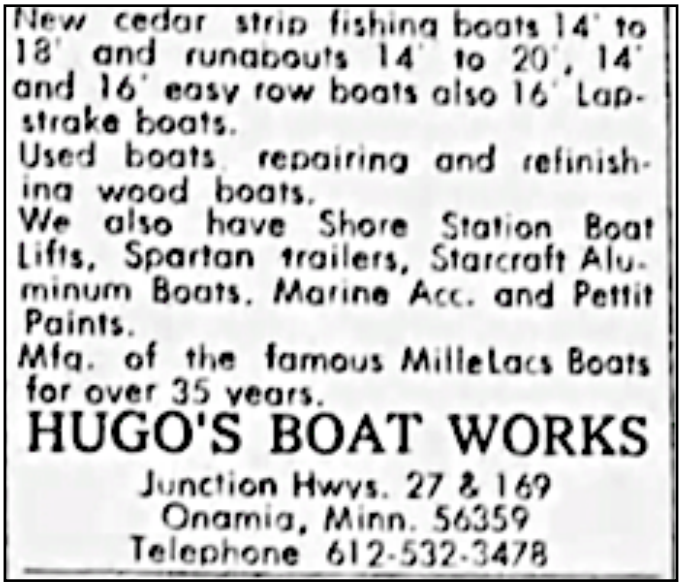
Watercraft in front of Hugo's Boat Works
(Courtesy Onamia Area History Club)

[6]Like Vivant's, Hugo's business was referred to by various forms in print including Hugo Boat Works, Hugo Boat Company, Hugo's Boat Company, Hugo's Boat Shop, Hugo Boat Shop, and Hugo's. Further, MHM could not locate any incorporation papers filed with the Office of the Minnesota Secretary of State under any variation of the business name.

- and as time went on, 30 years and on to half a century (Mille Lacs Business Members ca 1956; *Minneapolis Tribune* 1965, 1967a, 1968, 1970a; Minnesota Department of Business Development 1957, 144; Speltz 1985, 46).

Hugo's Boat Works (pinterest)

The popularity and quality of Hugo's watercraft were recognized when they were specifically mentioned as being an asset attached to properties up for sale. An example of this practice described a "new 5 1/2 motor and new 16' Hugo built fishing boat" as part of a summer home listing on Bay Lake in Crow Wing County. Also, private individuals put their own Hugo's boat up for sale occasionally, including a 20-foot cedar strip boat. Throughout the 1970s, Hugo's continued to offer new cedar strip fishing boats and runabouts ranging from 14.00 feet to 20.00 feet long, an inventory of used boats, marine accessories, trailers, boat lifts, Starcraft aluminum boats, Pettit paints, and the refinishing and repair of wooden watercraft (*Minneapolis Tribune* 1967b, 1970b, 1972a, 1973).


New cedar strip fishing boats 14' to 18' and runabouts 14' to 20', 14' and 16' easy row boats also 16' Lap-strake boats.
Used boats repairing and refinishing wood boats.
We also have Shore Station Boat Lifts, Spartan trailers, Starcraft Aluminum Boats, Marine Acc. and Pettit Paints.
Mfg. of the famous MilleLacs Boats for over 35 years.
HUGO'S BOAT WORKS
Junction Hwys. 27 & 169
Onamia, Minn. 56359
Telephone 612-532-3478

(*Minneapolis Tribune* 1973)

By the early 1980s, Hugo was one of the few Minnesotan boatwrights capable of the repair and maintenance of wooden boats; many older Hugo's Boat Works vessels would await his attention at his shop. Even with the success of fiberglass and aluminum watercraft after World War II, Hugo's Boat Works remained busy and successful. To the end of his long career, Hugo justified his belief that "wood boats are better boats" using 3 characteristics the material possesses:

1. Wood has great natural strength (fiberglass loses 35% of its strength while in the water).
2. Wood's natural warmth and beauty lends itself to fine craftsmanship; wood is noted for its insulating capabilities and for east of repair.
3. Wood will absorb tremendous strains because of natural resistance, and it has great fatigue and impact resistance.

With Hugo's trust in wood for watercraft construction, he used western red cedar for the outer hull strakes - thin strips with tongue and groove edges - and the other major construction attributes of frames, stem and stern posts, gunwale, keel, keelsons, deck coamings, and transoms were comprised of white oak. Seats are made from either

redwood or white pine. During his decades of building wooden watercraft, Hugo believed he constructed around 2,500 boats for not only Minnesota customers, but for clientele in Florida, California, and other US destinations. Hugo and Janet were successful throughout the latter half of the 20th Century through the rise in popularity of fiberglass and aluminum personal watercraft. Hugo contended their achievements were down to their customers, young and old, who "returned to the 'basics', and appreciated the quality construction as well as the beauty of a finely finished wooden boat". Further, an argument could be made that fishermen chose wooden boats over fiberglass and aluminum examples because they handle well in windy conditions, are quiet, and are buoyant by nature. The belief that wooden watercraft, "unlike glass or aluminum boats that will sink like a stone without flotation" persisted throughout the decades of success experienced by Hugo's Boat Works (Speltz 1985, 47).

Hugo and Janet retained ownership of the boat works into 1983, when Jim and Warren MaCaughlin purchased the business; it retained its name. Four years later, a real estate advertisement indicated that Hugo's Boat Works was up for sale once more. It touted a "mfg repair & storage complex on Hwy 169 nr 'Mille Lac's [sic] Lake'. 50 yrs of wood boat building history. High visibility, 8 acre site incl 2 BR home". The Boat Works remained in business into 1989 - at least - listing for sale a "'62 Cruisers Classic Wood Lapstrake. Excellent 18' deep-V hull. See at Hugo's Boats". After Hugo's death, his and Janet's creations continued to be placed on the market, often as a component of estate sales and classified ads. A brief perusal of archived newspapers listed the sale of two 1960 Hugo's runabouts, one of the firm's rowboats listed at $1,300.00, and a restored Hugo was part of a consignment auction. Few Hugo's Boat Works-produced watercraft are known to exist, although some have been located through web sites and online articles: a Fisherman G16, a G14 Easy Row Boat, a Fisherman G14, a restored ~1950 Fisherman G14, a 1960 Sportsman G16, a 1975 Sportsman G18[7], and a 1980 G14 Easy Row Boat (*Star Tribune* 1987, 1989, 1992, 1995, 1999; Minnesota Department of Health 1992; *St. Cloud Times* 2003, 2009; King 2007; *Mille Lacs Messenger* 2013; *Woodyboater* 2014, 2016; Antique Boat America ND; Boats from USA ND; Freedom Boat Service ND; Von Grossman ND).

(*Minneapolis Tribune* 1987)

(*Woodyboater* 2014)

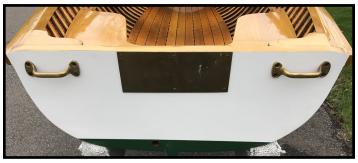
[7]This 1975 Sportsman G18 is an example of a restored Hugo's Boat Works vessel; originally the boat had tiller steering.

(King 2007)

(*Woodyboater* 2014)

(*Antique Boat America*)

(Von Grossmann)



(*Boats from USA*)

Description: Hugo's Boat Works Sportsman G16 Runabout (HBW-SG16)

MHM documented the Hugo's Boat Works Sportsman G16 Runabout (HBW-SG16) during 3 days of 3D scanning in May and June 2020. The HBW-SG16's wooden hull is 16.10 feet long, 7.25 feet in the beam, 5.60 feet at the transom, with a 2.30-foot depth of hold. The stem consists of a triangular (in cross section) outer stempost that is curved and attached to the keel; it has a metal 'false stempost' attached to it with large headed wood screws. These 2 wood screws are the only visible fasteners driven through the outer stempost that attach it to the inner stempost (not seen). The 2 screws also attach the U-shaped metal tow ring and its metal strip base; 2 roves are seen between the strip and the screw heads. At the stern, the keel protrudes from the hull bottom and is rectangular - almost square - in cross-section. Garboard strakes are rabbeted into the keel and 2 sister keels are see to the port and starboard side of the keel. The gunwale of the HBW-SG16 is intact with a caprail that is flush with a thin rubrail and fitted into the transom. The hull, including the foredeck, consists of thin wooden strip cedar strakes joined end to end, making the boat carvel-built. The aft edge of the foredeck is shaped by coaming that extends down each side of the boat; the foredeck has some damage. The square transom, designed to take an outboard motor, is comprised of 5 wide and thick planks, and it rakes slightly aft. The section of the gunwale that is cut out to

receive the motor is topped with a flat angled metal bar and a large rectangular metal motor board is attached to the stern below cut-out.

Starboard side of the HBW Sportsman G16 Runabout (MHM)

The HBW-SG16 has a wide flat bottom, a design attribute Hugo knew was necessary for stability and safety on Mille Lacs Lake. The aft section of the boat has slight tumblehome, where the hull narrows noticeably from the waterline to the gunwale. Substantial splashrails are secured to the outer just above the turn of the bilge. Inside the hull at the transom, a metal centerline knee – similar to a bracket – is attached to the exposed keel (the boat does not have a keelson) and the transom with substantial bolts. This knee may be a replacement for a wooden original that is missing, but it still adds significant support to the stern to accommodate the outboard motor. Just starboard of the knee, a large green metal support for the boat's plug is in place, as is the plug that passes through the hull bottom. Further starboard, a black rounded plastic bilge pump base is attached to the inner hull. A modern white plastic through-hull fitting in the transom represents the ejection site for bilge water expelled by the pump. Two horizontal knees on the port and starboard quarters at gunwale level add stability and strength to the hull; with age and the conditions that HBW-SG16 has experienced, the fasteners at the gunwale have loosened. Vertical beams attached flush to the transom support these knees, although the port side knee has shifted over time and is no longer is contact with the beam. The HBW-SG16 has thin frames attached to the inner hull, providing rigidity to the vessel. Each frame is one long thin piece of wood that has been curved in a steam box into a wide U shape, attached to the hull with short nails. Longitudinal stringers attached to the futtocks on both sides of the hull extend from the stern quarters to the front seats. Two more stringers are attached to the futtocks under the foredeck and 2 athwartships beams support the foredeck and the combing. Two bench seats are located forward with 4 chair backs to accommodate 4 people.

The boat still has her Minnesota registration number on both sides of her bow: MN 0926 HA. She was constructed in 1968 and was her last validation sticker expired on December 31, 2001 (Kong Moua, personal communication, December 2019). Two other labels or stickers survive on her quarters, but they are unreadable - Hugo's Boat Works logos? Non-structural attributes of the HBW-SG16 include a concave windshield that has a metal frame and is supported amidships by a metal tube screwed to the combing. The steering wheel - unusually - is on the port side fitted through the cowling and a black Evinrude controller with a wooden block is attached to the inner hull above the port stringer. Steering cable rollers survive under the foredeck and under the stern horizontal knees; metal loops attached to the inner hull, 4 along both sides, served as guides for the steering cables between the rollers. Other metal loops attached to the rubrail and to the inner combing and two carrying handles were screwed to the transom. The vessel is held together with small nails and heavier attributes are attached to the outer hull primarily with slot head wood screws, along with the fasteners previously mentioned. Considering the age of HBW-SG16, the lack of Philips head screws is noteworthy since that fastener type was introduced in 1936 and they became the

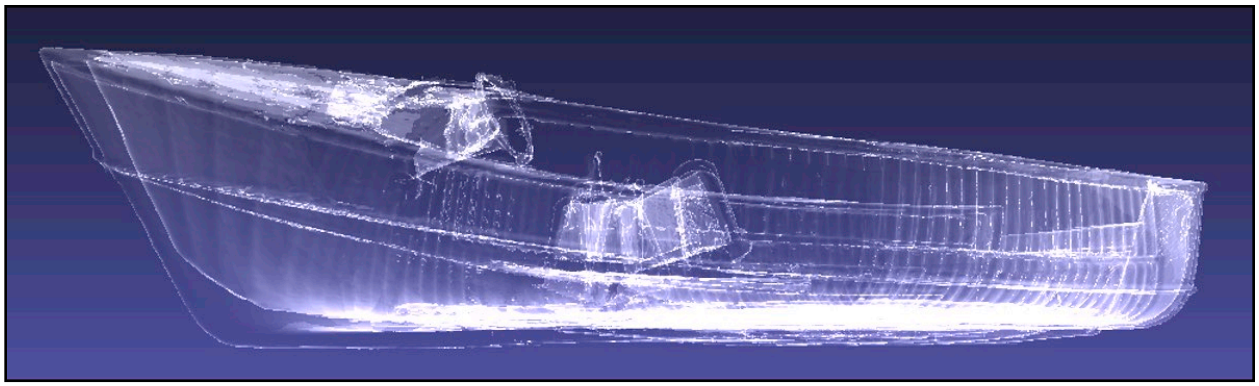
standard within the next couple of decades. The bottom hull is painted bright blue and most of it survives. Traces of white paint are seen on the splashrail, and white primer survives on the gunwale, rubrail, and combing, and the seats were painted red. Traces of varnish or dead grass colored paint can be seen all around the boat, but under the foredeck, healthy varnish has survived and still protects the forward section of the boat.

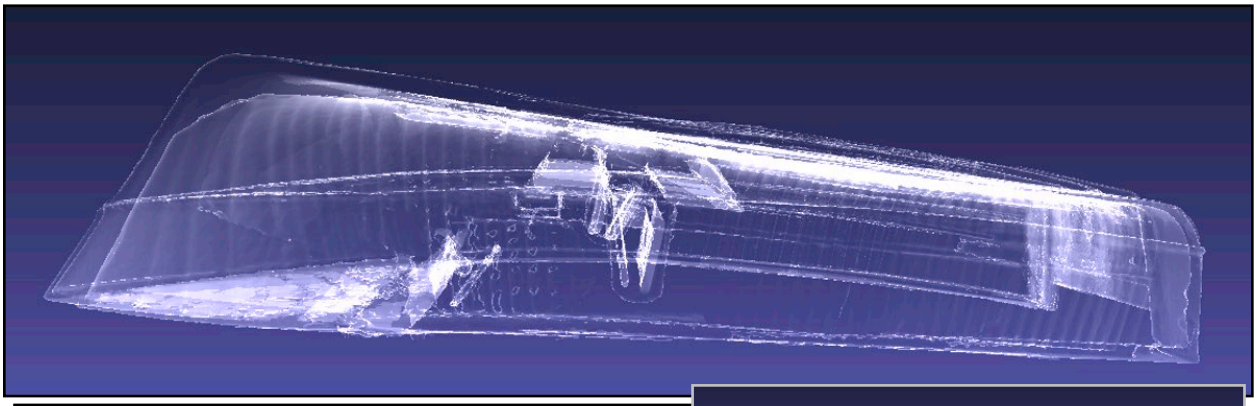
Unlike the widely used and advertised Larson All-American, few historic photographs of the Hugo's Boat Works buildings and boats have survived or have been preserved in the public record, although many examples must be collected in family albums in storage. Few surviving examples of Hugo's watercraft have been located, but some images have been acquired for study. Further, 1 boat that MHM has documented and 3D scanned is similar is design and construction to HBW-SG16 - the Indian Trading Post Boat Works Outboard Motor Boat (IOMB) The IOMB was also constructed on Mille Lacs Lake, in near-by Vineland. She was constructed in the 1930s by Mille Lacs Band of Ojibwe members and both vessels exhibit the same sturdy construction and design to handle the big lake. Also, a wreck similar to HBW-SG16 and the IOMB has been identified on the bottom of Lake Minnetonka. The Wooden Outboard Utility Wreck (21-HE-491) is 14.00 feet long, 3.90 feet in the beam, and 3.60 feet at the square transom with a slightly cambered foredeck. The differences between HBW-SG16, the IOMB and 21-HE-491 – beyond their sizes – are the athwartships planking of the foredeck and the, wide caprail from the bow to the stern on both sides wreck (Merriman and Olson 2016, 15-17, 2017, 9-20). The Hugo's Boat Works Sportsman G16 Runabout is in a constantly deteriorating condition.

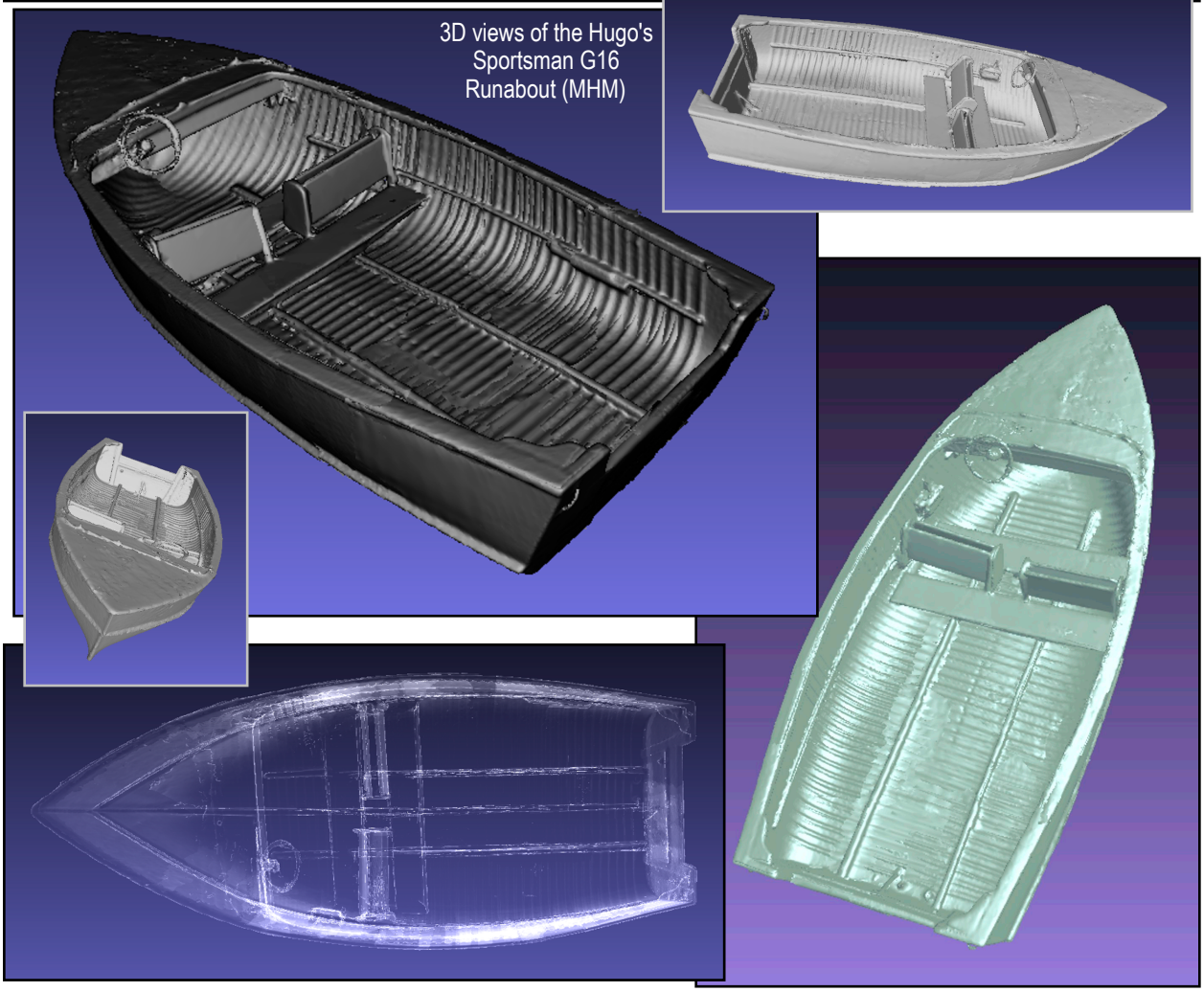
Views of the Hugo's Boat Works G16 Sportsman Runabout (MHM)

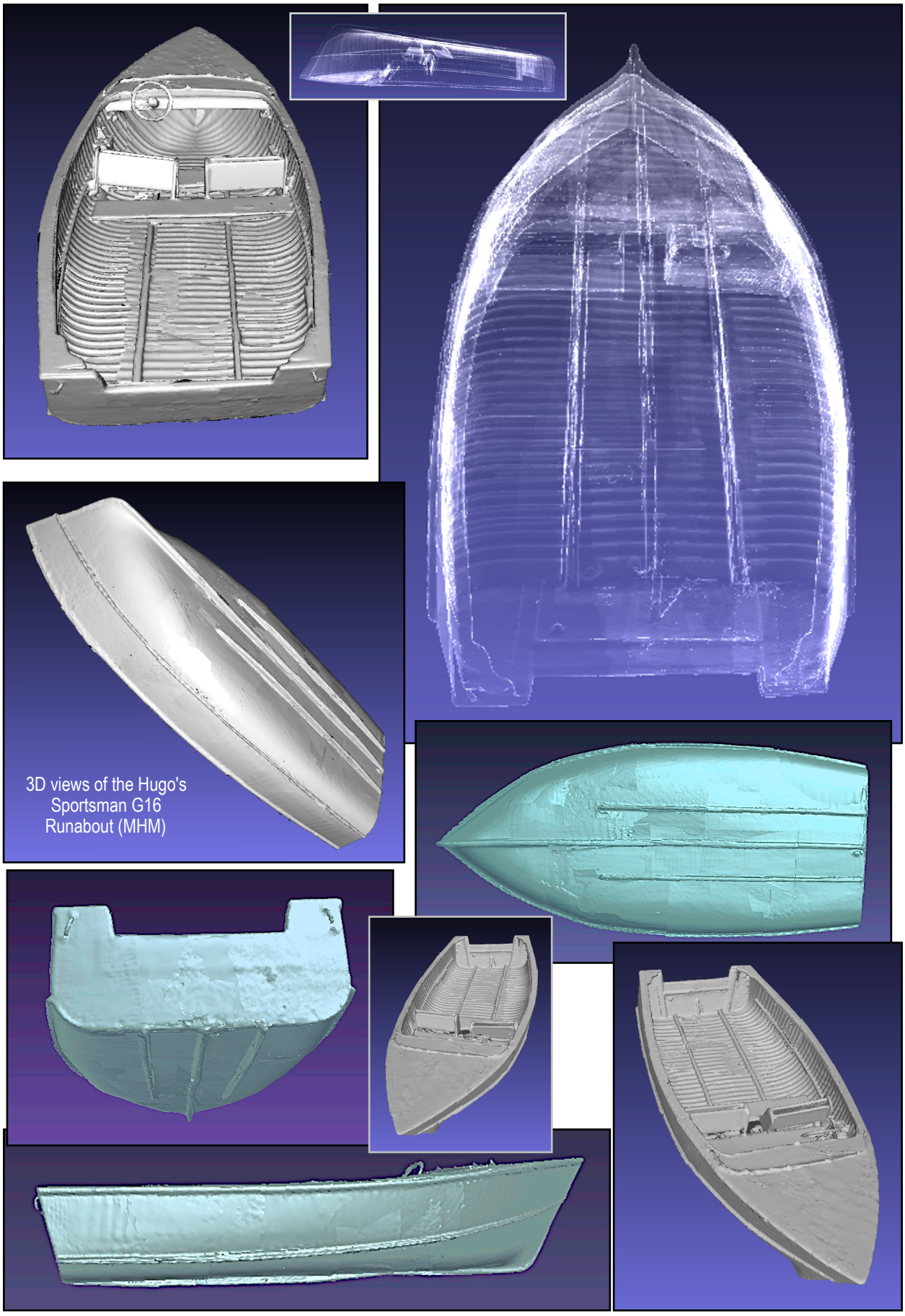
Views of the Hugo's Boat Works
G16 Sportsman Runabout (MHM)

Views of the Hugo's Boat Works G16 Sportsman Runabout (MHM)






3D views of the Hugo's
Sportsman G16
Runabout (MHM)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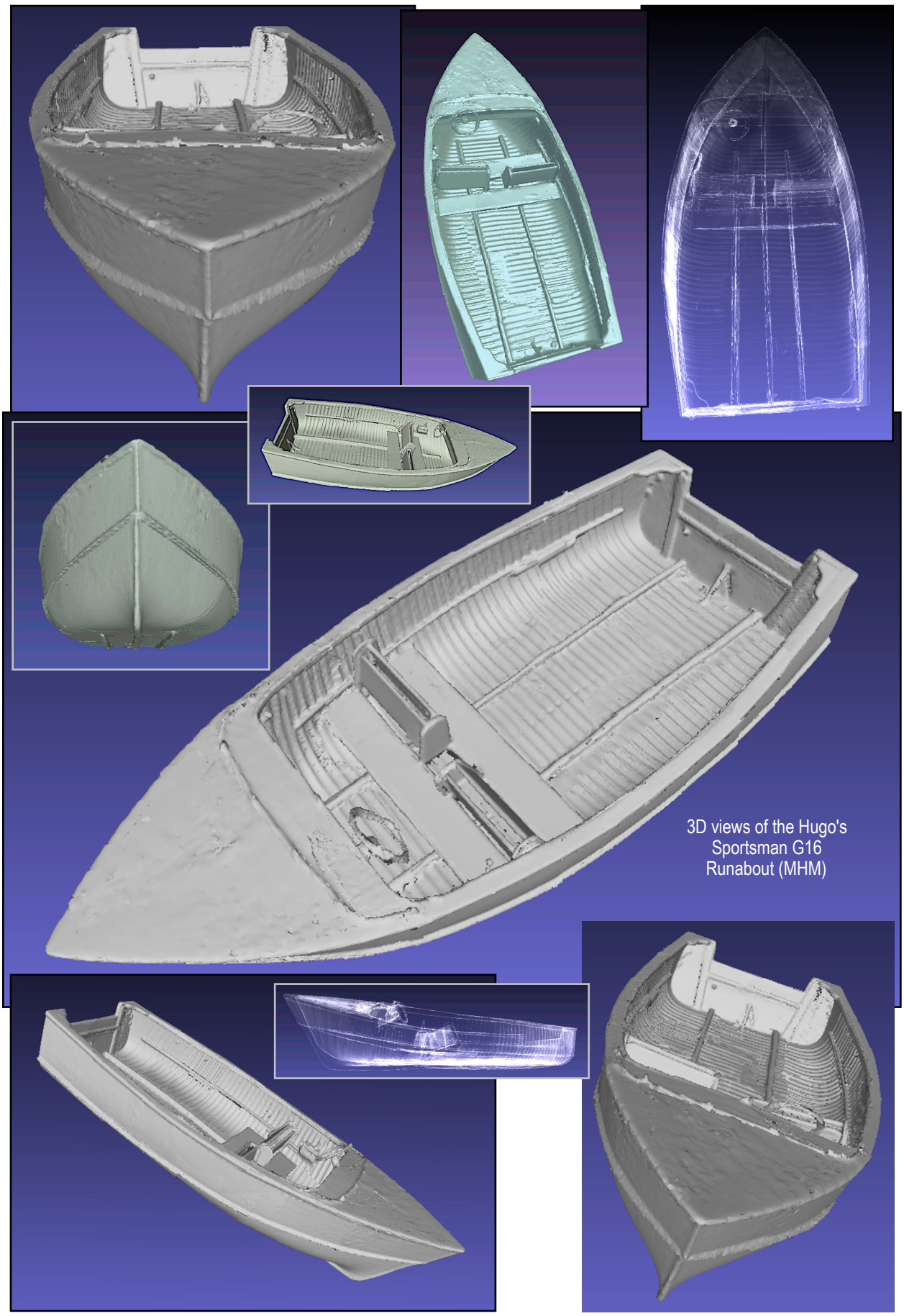


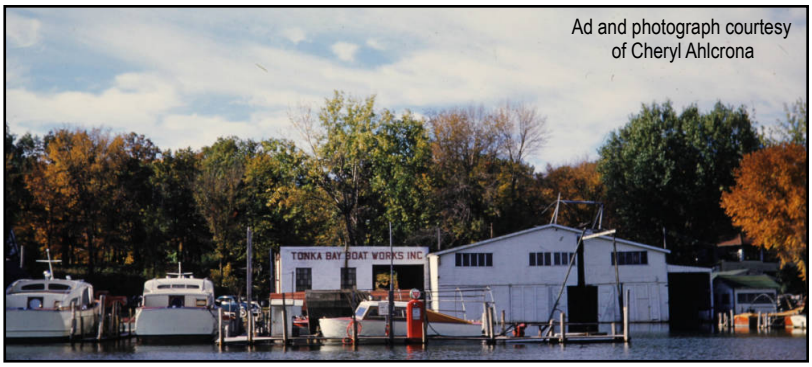
3D views of the Hugo's Sportsman G16 Runabout (MHM)

Conclusions

To more fully understand the cultural information the 4 small runabouts documented during the MHR Project provides, it is helpful to consider these vessels within their historical contexts. The post-World War II years saw the transition from wooden boat-building to primarily aluminum and fiberglass watercraft construction. Dozens of boatbuilding firms were established around the country that specialized in aluminum construction or fiberglass manufacture - and sometimes both processes were utilized by some companies. Many companies did not remain viable for more than a few years, particularly the smaller regional firms; they could not compete with national brands, especially those companies that had diversified their production to include both aluminum and fiberglass boats. However, wooden boat-building companies with national reputations such as Hackercraft/Hacker Boat Company, Correct Craft (now Ski Nautique), Chris Craft, Century, Higgins, and Owens continued to construct wooden runabouts, racing boats, cabin cruisers, and yachts, often also producing small personal watercraft or kits for the general boating public. Many of these name-brands transitioned to fiberglass boat manufacture, along with restoration and maintenance of their decades-old classic and vintage wooden vessels. The Larson Boat Works is also one these successful boat building enterprises that diversified in the late 1940s-1950s by phasing out wooden craft to focus on fiberglass boats. Through its subsidiary, Larson Watercraft, the company produced aluminum vessels for nearly 2 decades, into the 1960s. Contrastingly, Hugo's Boat Works prospered into the 1980s, continuing to hand-craft wooden boats on-order and with a years-long waiting list. Hugo's small size, low overhead, and quality product were the reasons for the company's longevity and success.

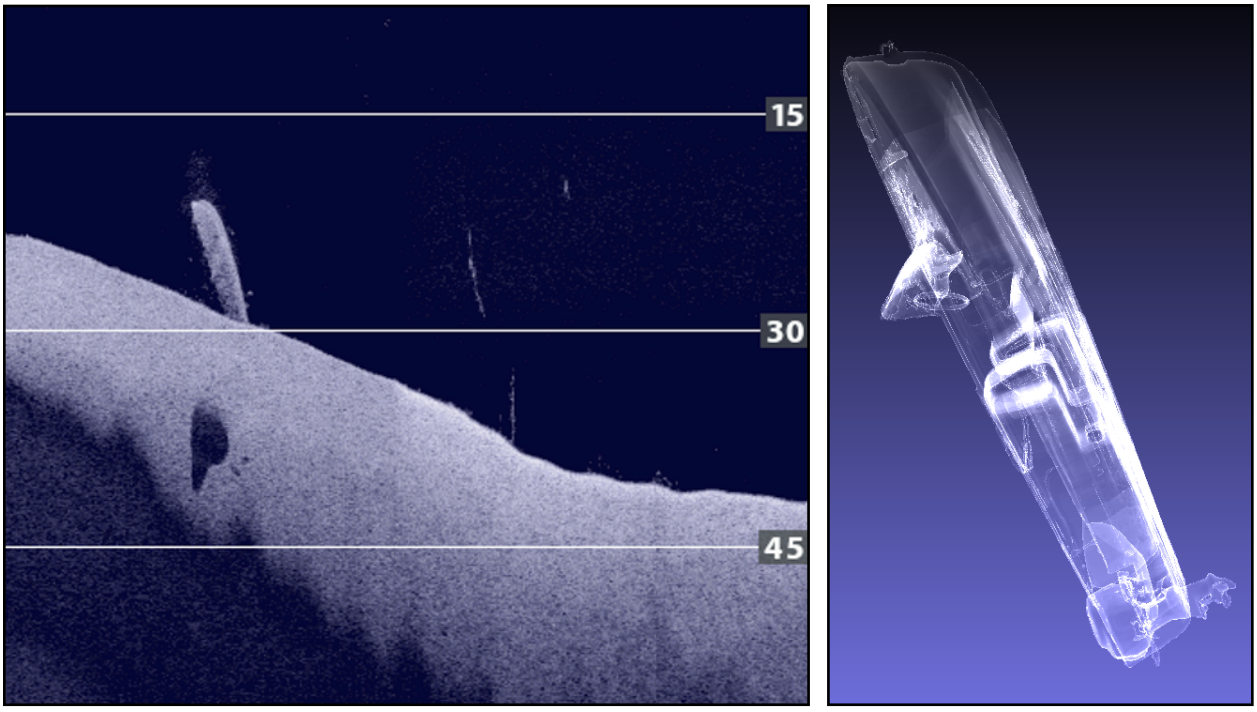
The case of Tonka Bay Boat Works and their Crona Craft is different from Larson and Hugo's. Ahlcrona operated a successful marina, watercraft dealership, boat shop, and off-season storage for several years, an enterprise that had been established by 1904. The production of a local Lake Minnetonka small wooden runabout, with distribution assistance from Higgins, was a good plan that developed too late to succeed long term. From what MHM can ascertain, Crona Craft were only produced between 1955-1958, and it is unknown how many Crona Craft that Tonka Bay Boat Works constructed, but it was not a high number. Due to the limited production of Crona Craft, the survival of TBBW-CC-1 and TBBW-CC-2 are important to Minnesota's maritime history; they represent the ingenuity of a Minnesota boat-building enterprise that augmented a long-established and

successful marina.



Ad and photograph courtesy of Cheryl Ahlcrona

The documentation of the Larson All-American 165 has proven to be particularly helpful to MHM. In August 2020, during nautical archaeological fieldwork, MHM identified a 1959 Larson All-American 165 Wreck on the bottom of Lake Minnetonka, situated upright in the water column. The comprehensive recording of the LBW-AA-165 assisted MHM in identifying the AA-165 Wreck quickly because the expected attributes shown in the boat at the MNHS were present in the wreck. For example, the presence of the Curtiss-Wright Wheelsman steering wheel on the wreck confirmed her model as a 165. The only major differences between the wreck and LBW-AA-165: the wreck has a blue color scheme as opposed to red and she has an Evinrude instead of a Johnson outboard motor.



A sonar down-image of the Larson All-American 165 Wreck standing in the water column in Lake Minnetonka compared to LBW-AA-165, turned on end to emulate the wreck.

The documentation of HBW-SG16 has produced data that MHM finds useful for comparative purposes in terms of similar wrecks identified in Minnesota's lakes. Beyond that, the survival of the few known Hugo's watercraft is important since they represent some of the best of Minnesota small boat design and construction. This last point is particularly important since HBW-SG16 is constantly deteriorating as part of an outdoor sculpture.

The creators of 3 of the 4 watercraft documented during this project did not produce vessels in large quantities, making the survival of these craft paramount to the Maritime

History of Minnesota. The fourth boat, the Larson All-American, was the best-selling fiberglass runabout in the world between the 1950s and the 1990s. However, the Larson is similar to the wooden boats in this study in that the older All-Americans have not survived in great quantities despite the large number that were manufactured. The acceptance of these historic and vintage watercraft into museums and collections, as well as their continued use on Minnesota's lakes and rivers guarantees their healthy survival in perpetuity - under the stipulation that they are stored correctly with appropriate environmental controls. In the case of HBW-SG16, the storage stipulation does not apply because she is constantly exposed to the elements and in a persistent state of decay.

Lastly, MHM staff have produced quality digital 3D models for projects that have utilized iPads with an attached scanner to document rare Minnesota watercraft. To date, including the boats documented during the MHR Project, MHM has successfully documented 14 historic Minnesota watercraft using inexpensive 3D scanning technology that has proven to be effective and appropriate to the task. Before the MHR Project, MHM was limited to the use of 1 iSense scanner and 1 iPad during on-site scanning fieldwork. MHM has acquired a new Structure Sensor Mark IV scanner, its app, and a new iPad. Additionally, the iSense has been re-calibrated to use the Structure Sensor app, resulting in the doubling of the number of usable graphics data files created during a given fieldwork day. The collected data has remained suitable for manipulation in MeshLab open source software, and the increase in data production has allowed MHM to construct more accurate 3D models with greater detail. Therefore, the output produced during this project are the most detailed 3D models created by MHM to date. Further, MHM has determined that the Structure Sensor app - used with both the Structure Sensor Mark IV scanner and the iSense scanner - allows effective scanning in sunlight; the iSense app does not work well outdoors in sunny areas. The 3D scanning and documentation of historic watercraft assists underwater archaeologists in identifying wrecks of the same or similar manufacture on the bottom of Minnesota’s lakes and rivers. In addition, the 3D scanning of complete boats and specific components and attributes is useful for preservation, conservation, restoration, and identification purposes. Also, printing examples of the scanned boats in 3D miniature can augment the archival record of each object, and even promote a museum’s collection by offering the printed models as gift shop kits, complete with paint. These printed boats could become a great teaching tool as part of a maritime curricula. Lastly, the documentation and 3D scanning of historic boats is a form of preservation; if any of the subjects in this project are damaged or destroyed (in the case of HBW-SG16 her destruction is inevitable), at the very least the data from this project can reproduce the watercraft virtually. The continued curation and study of these rare examples of Minnesota craftsmanship creates a maritime legacy for the benefit of future generations.

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